

THE MEMBERS MAGAZINE OF THE NATURAL
HISTORY MUSEUM OF LOS ANGELES COUNTY

Terra

VOL. 15 NO. 1 SUMMER 1976



Kudos for Kahgan

Philip Kahgan, well known Los Angeles musician was presented with a plaque on Monday, May 17, commemorating his thirty-two years as Music Director of the Chamber Music Series of the Natural History Museum of Los Angeles County.

At the Museum membership's annual meeting in the North American Mammal Hall Dr. Giles W. Mead, Museum director, awarded the plaque to Mr. Kahgan with these words: "Our affection, respect and admiration to Philip Kahgan who for more than thirty years has been the only music director of the weekly Sunday Museum Chamber Music Concerts of this Museum."

Mr. Kahgan has engaged musical groups each Sunday of the year during the entire tenure of this music series. The series is also broadcast on KFAC-FM to a listening audience of between 50,000 and 80,000 people each Sunday. These regular, live, weekly broadcasts have continued, uninterrupted for over twenty-five years. This series is unique in the world.

Mr. Kahgan was formerly first violist with the Los Angeles Philharmonic Orchestra, after which he joined Paramount Pictures as orchestra contractor. During his forty years at Paramount he has assembled orchestras of the finest musicians and for the finest conductors. He has assembled orchestras for Leopold Stokowski, Bruno Walter and many other of the great musicians of our time for Hollywood Bowl performances and many recording sessions.

The concerts continue, sponsored by the County Board of Supervisors, through the County Music and Performing Arts Commission and the Music Performance Trust Fund of the Recording Industry, with the cooperation of the American Federation of Musicians, Local 47. Each Sunday a different musical group is presented at 2:30 p.m. in the Museum's Delacour Auditorium and the concerts are free to the public.



Philip Kahgan, left, receives plaque from Dr. Giles Mead, Natural History Museum director.

Editor's Note

Elizabeth Wright wrote the charming on-the-spot article, "A Visit with the Toad Lift Lady," for *TERRA*, Spring, 1975, our special issue on Frogs & Toads. She visited with Miss Priscilla Oates, area representative for the Hertfordshire and Middlesex Trust for Nature Conservation in England, whom Miss Wright dubbed "the Joan of Arc of toadodom." The following letter is self-explanatory.

Dear Dorothy:

Let me warm your heart. The following excerpt is from a letter written by Miss Priscilla Oates, the British Toad Lift Lady who was featured in the special *TERRA* issue on Frogs and Toads. As you may recall during a *TERRA* Board Meeting a tender solicitation was voiced regarding the fate of Pixies' Mere, the toads' breeding place, so I promised to follow up. This is a reply from Miss Oates dated 16th March, 1976.

"... You will remember that the fate of Pixies' Mere hung in the balance. I am happy to write that for the time being at least the Mere is to be left to the toads. Recently the conservationists won the day by being able to present counter arguments to all clauses of a proposed redevelopment plan. So far this season at least the toads, newts and birds of Pixies' Mere will be able to breed in peace; but I have a sinking feeling that we will have to do battle again, on their behalf in the near future.

"Toadlift' itself went very smoothly last year. Our ranks of volunteer 'lifters' rose and so correspondingly did the number of toads we were able to save. In fact we lifted four hundred more than the previous year, to make a total lift of two thousand, two hundred and twenty-seven; and by so doing managed to reduce the mortality rate of those killed on the road to 1.5%.

"Already this year Toadlift is under way. The toads have been on the move on three nights at the end of February when conditions were good. Then we had a period of sharp night frosts which have sent them back into hibernation. So now we are all waiting for the critical temperatures and climatic conditions which, from experience, we know will mean that the toads are on the move again."

Anyway, Dorothy, I thought you and *TERRA*'s readers would like to know.

Sincerely,
Elizabeth Wright.



The Members Magazine of
THE NATURAL
HISTORY MUSEUM ALLIANCE
of Los Angeles County
VOL. 15 NO. 1 SUMMER 1976

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The Cover

See page 7, top right.

Art from Zaïre

A rare traveling exhibit visits
the Natural History Museum in Los Angeles



Africa's artistic treasures have inspired some of the world's outstanding painters and sculptors, such as Picasso, Modigliani and Braque, to name but a few. This widespread admiration of African art has not been an unmixed blessing for the African people themselves, however, for many of the finest of such works now reside in the museums and private collections of Europe and America.

In many African countries, a campaign has been mounted to encourage national appreciation of their artists' contributions by erecting museums to house the best remaining works. One eye-filling result of this effort may currently be seen in a new exhibition, *Art from Zaïre: 100 Masterpieces from the National Collection*, now on a two-year tour of American cities, and visiting the Natural History Museum of Los Angeles County, September 14th-December 19th.

On loan from the government of Zaïre (the former Democratic Republic of the Congo), the exhibition contains masks, ancestral figures, drums, chiefs' staffs, pipes, scepters, fly-whisks, bracelets and other ceremonial objects. Among them is a piece of funerary pottery more than 1000 years old, a mask decorated with 400-year-old beads, and a variety of figures carved in wood, stone and ivory.

The 100 works in the Zaïre exhibition were selected from among 50,000 objects — of both ancient and recent origin — collected during the past five years by the Institute of the National Museums of Zaïre to which the Zaïre government had given the task of collecting, documenting and preserving the traditional artistic heritage of that central African country. They represent 26 different cultures in Zaïre from such artistically prolific groups as the Luba, Kongo, Kuba, Pende, Teke and Lula peoples. While these are but a portion of the 200 ethnic groupings in Zaïre, their output demonstrates the high quality often achieved by traditional African artists working in elemental materials.

Left: A brilliant example of the works to be seen in the Zaïre exhibition, this Kuba mask made of wood, cloth, cowrie shells, beads and paint, represents Woot, the sister-wife of the Kuba's legendary great ancestor.

Peoples of the Republic of Zaïre Represented in the Exhibition

1. Binji
2. Biombo
3. Boa
4. Hembra
5. Holo
6. Kongo
7. Kuba
8. Kumu
9. Leele
10. Lengola
11. Luba
12. Lula
13. Lwalwa
14. Mbala
15. Ndengese
16. Ngbaka
17. Ngombe
18. Nkanu
19. Nkutshu
20. Pende
21. Salampasu
22. Suku
23. Teke
24. Tshwa
25. Tshokwe
26. Yaka

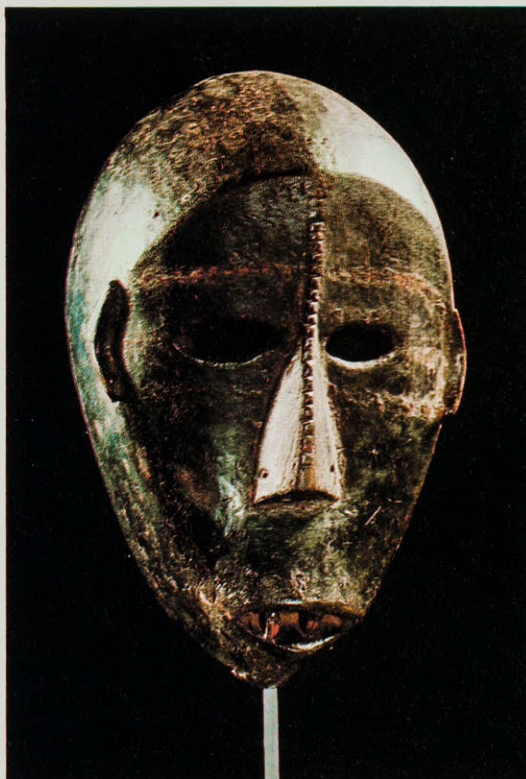


Ethnographic map by
Marjorie Hoffberg Auerbach

Some of the works displayed were commissioned by kings to decorate royal households, some are objects of special significance that were employed in funerals, circumcision rites, exorcism rituals, homage to ancestors or pleas to the gods of fertility. Others are simply the implements of everyday use.

Organized by the African-American Institute, The American Federation of Arts and the government of Zaïre, the *Art from Zaïre* exhibition and its accompanying catalog were underwritten by grants from the National Endowment for the Arts and other groups. *Art from Zaïre*, which opened in New York last fall, has been exhibited also in Washington, D.C.'s Museum of African Art. During its two-year visit in the U.S., the exhibition will tour, besides Los Angeles, Philadelphia, Pittsburgh, Toronto, Dayton, Indianapolis, Atlanta and New Orleans.

TERRA is indebted to the Exxon Corporation for the generous contribution of its color separations for the photos on pages 3, 5, 6, & 7, which first appeared in that company's quarterly magazine, THE LAMP (Copyright 1976 Exxon Corporation). The article which accompanies the color photos is reprinted from THE LAMP, thanks to permission from Jack Long, its editor. All photos are by Marcel Willy Kerremans except page six (top) Lee Boltin.



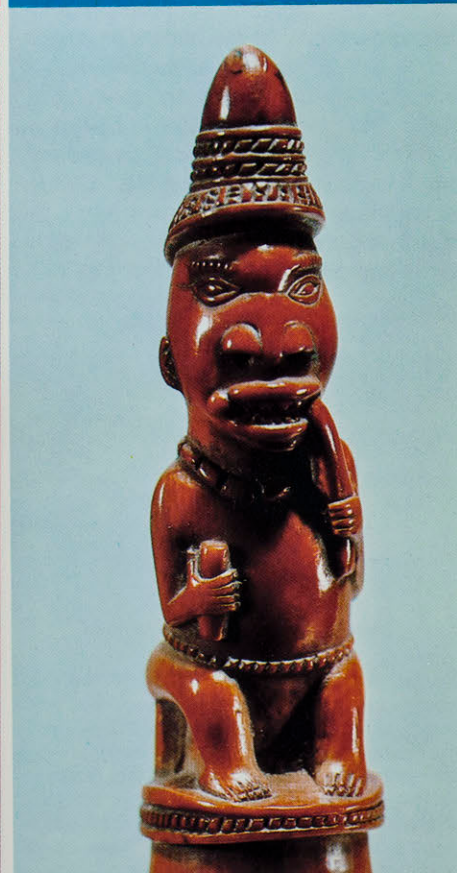
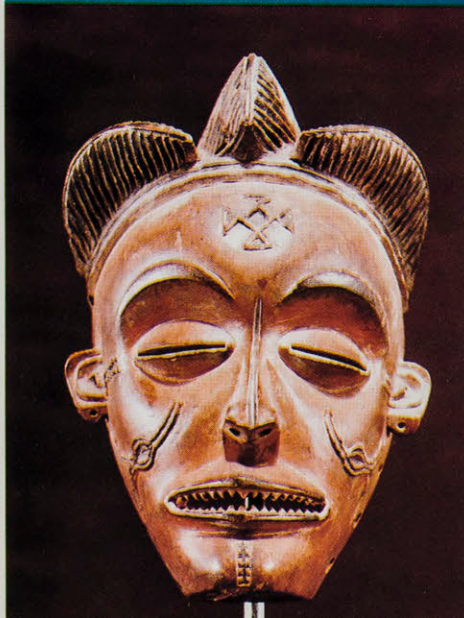
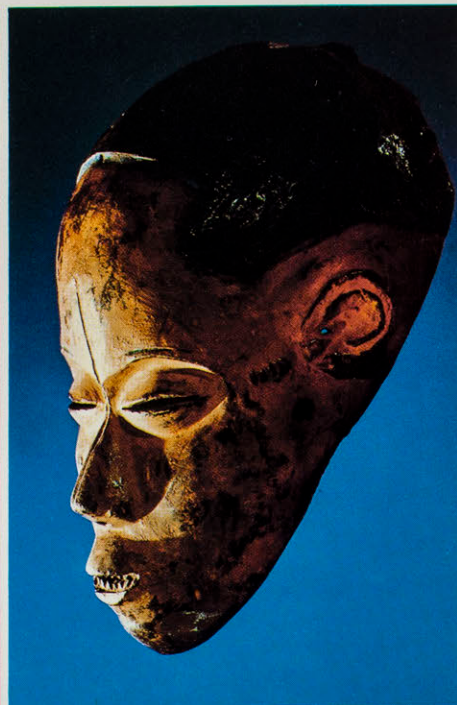
Top, left: A Ngbaka wooden mask of the type usually used in circumcision ceremonies. Ridges along the nose are typical tribal scarification. Top, right: A Pende mask, reserved for the use of tribal notables. Bottom, left: A kabeja statue used in ancestor worship, fertility rites and homage to chiefs by the Hemba peoples. Bottom, right: A small slit Yaka drum employed in divination and healing.

The Kongo chief's staff, below, of wood, ivory and metal, shows a chief in European dress with one of his wives.

Top right: Two views of a mask, thought to be Kuba in origin, though such realism is rare among the works of the Kuba people.

Middle, top: A Kongo pipe of pottery and wood with a chiefly procession carved on its bowl.

Middle, bottom: A Tshokwe mask from a tribe living near the Zaire-Angola border. Bottom, right: The seated figure of a medicine man forms one end of an ivory Kongo side-blown trumpet.





Below: (the cover). A royal mask made of leather, raffia, beads, cowries and metal, commissioned by a Kuba king during the early 19th century. As befitting royal objects, it embodies best workmanship and materials. Bottom: A white Luba mask of wood and fiber which belonged to a secret society. Luba art is highly ranked but has been little studied.



Above top: This 8th century ceramic bowl, excavated from the Upper Zaire River valley, was probably made for funerary use. Above is one of the masterpieces of Hemba art, a statuette which topped a calabash fetish. Its head once contained magic ingredients.

Left, top: A Yaka ancestor figure made of wood, beads and cowries. Left, middle: A two-sided Hemba caryatid seat of wood. Female figures exhibit abdominal scarification and may be chiefs' wives. Left, bottom: This excellent example of Kongo artistry is a wooden powder box with geometric pattern.



THE CHANGING IMAGE OF THE CONGO

8

by Arnold Rubin

Photos by Marcel Willy Kerremans

Between 1885 and 1908, that portion of Central Africa now known as Zaïre was owned, for all practical purposes, by King Leopold II of Belgium. This domain, the so-called Congo Free State, comprised over 900,000 square miles and between twenty and thirty million people. The atrocities perpetrated under Leopold's administration provided characters and setting for Joseph Conrad's novel, *Heart of Darkness*, which confronted "civilized" man with a terrible image of his own inherent capacity for unregenerate savagery. Conrad's assumption that the Congo would be accepted as the inevitable background for such a drama also seems to underlie Vachel Lindsay's poem, "The Congo: A Study of the Negro Race."

I. Their Basic Savagery

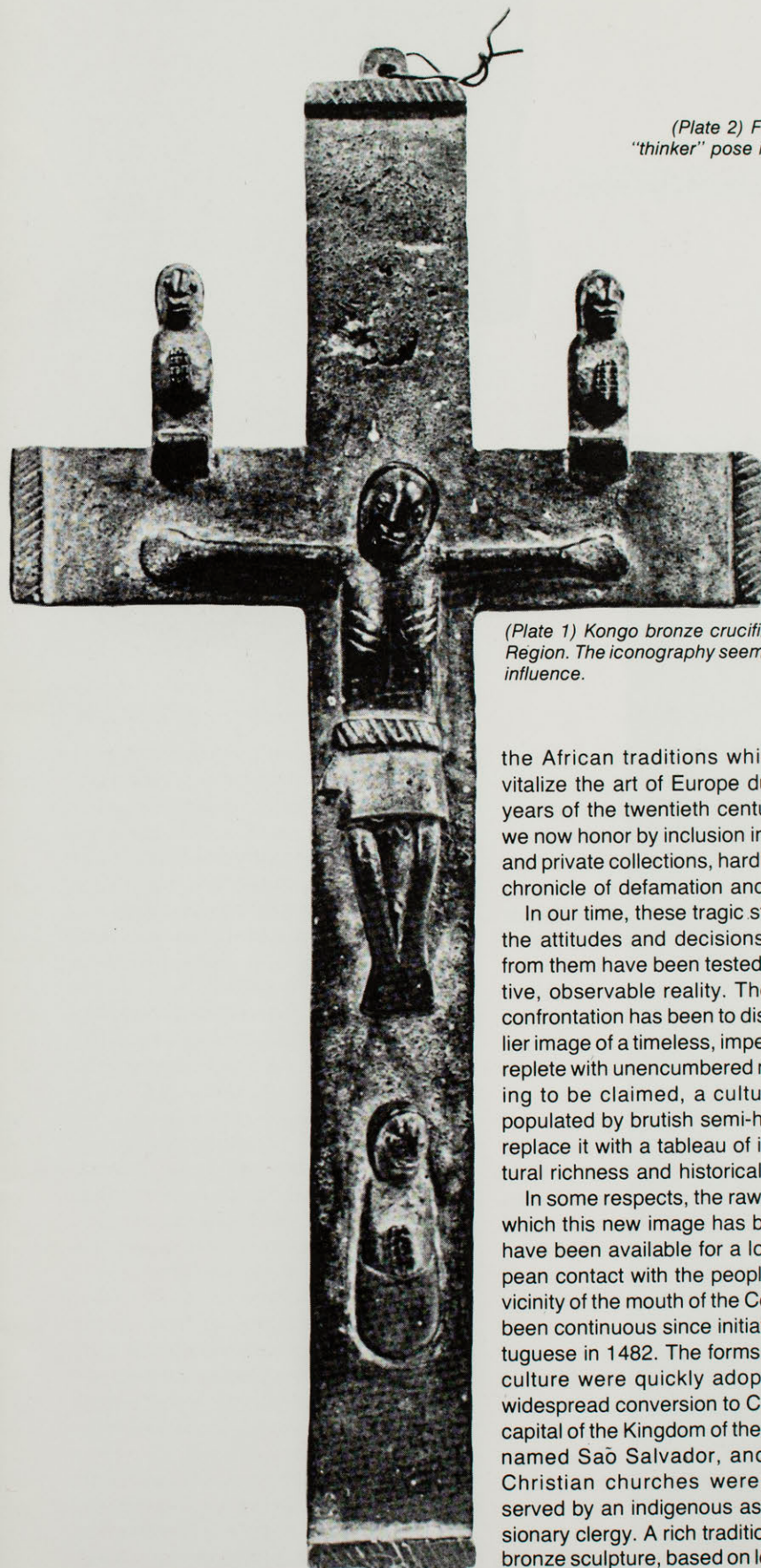
*Fat black bucks in a wine-barrel room,
Barrel-house kings, with feet unstable,
Sagged and reeled and pounded on the
table,
Pounded on the table,
Beat an empty barrel with the handle of a
broom,
Hard as they were able,
Boom, boom, BOOM,
With a silk umbrella and the handle of a
broom,
Boomlay, boomlay, boomlay, BOOM.
Then I had religion, THEN I had a vision.*

*I could not turn from their revel in derision.
THEN I SAW THE CONGO, CREEPING
THROUGH THE BLACK,
CUTTING THROUGH THE FOREST WITH
A GOLDEN TRACK.*

*Then along that riverbank
A thousand miles
Tattooed cannibals danced in files;
Then I heard the boom of the blood-lust
song
And a thigh-bone beating on a tin-pan
gong.
And "BLOOD" screamed the whistles and
the fifes of the warriors,
"BLOOD" screamed the skull-faced, lean
witch-doctors,
"Whirl ye the deadly voo-doo rattle,
Harry the uplands,
Steal all the cattle,
Rattle-rattle, rattle-rattle,
Bing.
Boomlay, boomlay, boomlay, BOOM."
A roaring, epic, rag-time tune
From the mouth of the Congo
To the Mountains of the Moon.
Death is an Elephant,
Torch-eyed and horrible,
Foam-flanked and terrible.
BOOM, steal the pygmies,
BOOM, kill the Arabs,
BOOM, kill the white men,
Hoo, Hoo, Hoo*

*Listen to the yell of Leopold's ghost
Burning in Hell for his hand-maimed host.
Hear how the demons chuckle and yell
Cutting his hands off, down in Hell.
Listen to the creepy proclamation,
Blown through the lairs of the forest-nation,
Blown past the white-ants' hill of clay,
Blown past the marsh where the butterflies
play: -
"Be careful what you do,
Or Mumbo-Jumbo, God of the Congo,
And all of the other
Gods of the Congo,
Mumbo-Jumbo will hoo-doo you,
Mumbo-Jumbo will hoo-doo you,
Mumbo-Jumbo will hoo-doo you."*

Conceived of as the epitome of deepest, darkest Africa, the Congo has attracted generations of Christian missionaries who sought to save their own souls by devoting their lives to this most miserable, most pathetic, most benighted sector of humanity. An even less altruistic form of imperialism is more frequently encountered in the historical record. Successive generations of foreign entrepreneurs have sought to extract and export the particular commodities which each period and market demanded, from spices, slaves, and ivory to copper, uranium, petroleum and most recently, works of art. (That the art of Zaïre was privileged to be represented among



(Plate 1) Kongo bronze crucifix, Lower Zaïre Region. The iconography seems to have African influence.

(Plate 2) Funerary monument, Ntadi. The "thinker" pose is fairly common among Ntadi.



the African traditions which helped revitalize the art of Europe during the early years of the twentieth century, and which we now honor by inclusion in our museums and private collections, hardly redeems this chronicle of defamation and exploitation.)

In our time, these tragic stereotypes and the attitudes and decisions which flowed from them have been tested against objective, observable reality. The effect of this confrontation has been to dissipate the earlier image of a timeless, impenetrable forest replete with unencumbered resources waiting to be claimed, a cultural wasteland populated by brutish semi-humans, and to replace it with a tableau of impressive cultural richness and historical complexity.

In some respects, the raw materials from which this new image has been fabricated have been available for a long time. European contact with the peoples living in the vicinity of the mouth of the Congo River has been continuous since initiated by the Portuguese in 1482. The forms of Portuguese culture were quickly adopted, including widespread conversion to Christianity. The capital of the Kingdom of the Kongo was renamed São Salvador, and a number of Christian churches were constructed, served by an indigenous as well as a missionary clergy. A rich tradition of stone and bronze sculpture, based on local interpreta-

tion of European models, survived the withdrawal of Portuguese influence. [PLATES 1,2] Any sense of cross-cultural Christian community, in particular, was quickly overwhelmed by the steadily rising demand for slaves as Portugal was joined by other European powers in bidding for control of the dense network of long-distance trade routes penetrating the interior from the west coast ports. From an East African perspective, there is evidence that a good deal of the copper and other minerals, slaves, and ivory carried in the Indian Ocean trade may have originated in Katanga and other areas of eastern Zaïre, a commerce which may have begun as much as 1500 years earlier than that with Europeans in the west.

Any implication that the history of Zaïre began with European or other foreign contact, or that its role was nothing more than mine or market, is not intended by the foregoing. That such a stipulation is even necessary is a reflection of the comparative abundance of documentary resources available concerning trade with coastal peoples, long in contact with literate Europeans and Moslems, together with the lack of even such a skewed body of historical data for the interior, where direct contact with potential chroniclers came late. New techniques of historical reconstruction based on oral tradition, linguistic analysis,

(Plate 4) *Hemba Stool*. Wood.



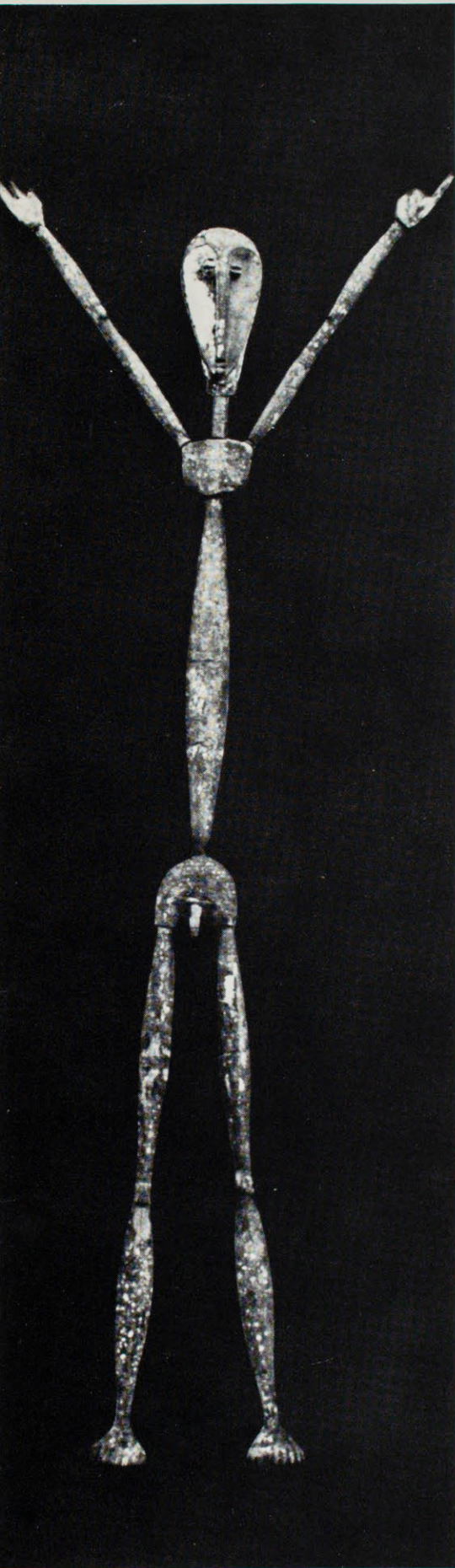
(Plate 3) *Kuba mask*. Wood, cloth, cowries, beads, paint.



and other unconventional resources have revealed a splendid tapestry of great kingdoms and empires in the interior, areas previously blank spaces on the map; those of the Kuba, Lunda/Chokwe, and Luba seem to have been especially important. A crucial role for the arts in establishing and consolidating political authority in such states is abundantly demonstrated in the literature. [PLATES 3,4]

Ethnographical research has also established the diversity, coherence, and resonance of smaller-scale social and political entities. Such groups, typically more egalitarian and decentralized, maintained and defended their independence and identity through complex systems of local culture in which the arts appear consistently as central features. [PLATES 5,6] Especially notable in this regard are the Lega of the remote and sparsely populated northeast; they developed a richly articulated and ramified code of social control and virtuous behavior within the framework of a graded organization of males, a "secret society" called Bwami, in which small ivory carvings and other objects, used didactically, were the core elements.

In terms of both history and culture, the arts of Zaïre provide especially direct and immediate experience of this new image of the country and its people. No longer stig-



(Plate 6) Ito cult figure, representing Suway, the ancestor of the Lengola people.

(Plate 5) Salamposu mask.
Wood, fiber, feathers.



matized as grotesque and heathenish works of the devil, or valued merely as source-materials for the formal experiments of advanced Western artists, the artistic heritage of the peoples of Zaïre can serve as a starting point for a deeper understanding of their cultural systems and historical experiences. Considered in isolation, however, the objects themselves remain portentous yet inscrutable-beautiful orphans-in the absence of complementary information regarding their origins, uses, and significance.

Until 1970, both objects and information had been gathered almost exclusively by Belgian scholars working under the auspices of the Musée Royal du Congo Belge (now Musée Royal de l'Afrique Centrale) and published in the museum's journals and monograph series, often only in Flemish. This essentially closed system has resulted in severely limited access to their findings on the part of American scholars. For such bureaucratic and linguistic reasons, the region in question remained largely a Belgian research preserve as Americans interested in the arts of Africa were increasingly gaining actual and bibliographical access to the English and French African colonies. Thus they could only be intrigued-and frustrated-by the occasional piece from the Congo which came

into their purview.

A major event in breaking down this state of provincialism was the lavish exhibition, "Art of the Congo," drawn from the collections of the Musée Royal de l'Afrique Centrale and shown in a number of American cities during 1968. The exhibition was accompanied by a catalogue which even today stands as a useful, if brief, introduction to the field. A much more thorough survey of the arts of Zaïre in English has been made available in the form of Fr. Joseph Cornet's magisterial *Art of Africa: Treasures from the Congo*. The exhibition "Art from Zaïre," showing from September 14th to December, 1976, at the Natural History Museum of Los Angeles County, and its catalogue, are also products of Fr. Cornet's taste and expertise, in his capacity as Associate Director General, Institute of the National Museums of Zaïre. This most recent event might be said to culminate the initial phase of our introduction to the arts of Zaïre, while at the same time heralding a new generation of exhibitions of African art in the United States, organized at the instance of African governments and drawn from the collections of their own national museums. Whereas former colonial powers typically have been able to draw upon such resources, the major loans from Nigeria which toured the United States dur-



Kuba drum, one of five old royal drums. Wood, beads, cowries, seeds, metal.

Pende mask. Wood, cloth, raffia, fiber.



ing 1970 foreshadowed this new departure.

An important distinction between these two bodies of material—the one from Nigeria, the other from Zaïre—needs to be emphasized. “Art from Zaïre contains much which is unfamiliar, and develops distinctions between styles and substyles with finer discrimination than has heretofore been possible. Yet, as the introduction to the exhibition catalogue points out, certain well-known categories of sculpture, such as the Bwami society ivories of the Lega, without which no presentation of the arts of Zaïre can be considered complete, could not be included. Examples judged to be of sufficiently high quality, age, and stylistic integrity are not contained in the national collections. Nigeria, in contrast, was able to send uniformly excellent examples of practically all its major traditions. The reason for this discrepancy seems to be that Nigeria’s Department of Antiquities has been engaged in protecting and investigating the country’s artistic heritage since the 1930’s, while its counterpart in Zaïre was only constituted in 1970, following Independence; previously, important collections went to the Musée Royal de l’Afrique Centrale as a matter of course. The “Art from Zaïre” catalogue announces that the MRAC has agreed to repatriation of key examples of traditions which can no longer be obtained

in Zaïre.

It is to be hoped that other countries of Africa (and elsewhere in the “Third World”) might be able to arrange similar programs of repatriation or exchange. No sentimental illusions should be cherished regarding the objectives or uses of such repatriation, however; the objects are not being restored to anything resembling a traditional context. Museums, national research institutes, and similar agencies are phenomena of modern life wherever they are found, functioning as ideological nodes around which a sense of national identity, historical continuity, and shared destiny can coalesce. Such institutions, and the materials with which they deal, can serve, both within and without their national boundaries, to overcome provincialism and to correct pejorative stereotypes. Recognition of this pivotal role of the art of Zaïre by all parties to the transaction which “Art from Zaïre” represents, and of the sense of mutual involvement and responsibility such recognition entails, thus stands as a profoundly hopeful symbol of the changing image of the Congo.

Dr. Arnold Rubin is associate professor of Art History, UCLA. He will be teaching the UCLA Extension course, In the Presence of the Art from Zaïre, at the Natural History Museum, beginning September

22nd. September 22: Introduction: Geography and History of Sub-Saharan Africa, Emphasizing Regions of Zaïre. September 29: The Lower Congo River Basin: Artistic Resolutions of European Contact. October 6: Villages of the Grasslands. October 13: Kingdoms and Empires of the Interior (I). October 20: Political Art in a Plebeian Society. Guest Speaker: Daniel Crowley, Professor of Anthropology, University of California, Davis. October 27: Kingdoms and Empires of the Interior (II). November 3: Art, Morality and Social Control in the Northeast. November 10: Toward an Appreciation of the Art of Zaïre.

SUGGESTED READING Congo History

The Horizon History of Africa, American Heritage Publishing Co. Inc., New York, 1971, situates the history of Zaïre in an African context, from earliest times until Independence; Basil Davidson, *A History of East and Central Africa to the Late Nineteenth Century*, Anchor Books, New York, 1969, is also useful.

Role of Arts in Congo

Jan Vansina, *Kingdoms of the Savanna: A History of Central African States Until European Occupation*, Univ. of Wisconsin Press, Madison, 1968; and “Ndop: Royal Statues among the Kuba,” in Douglas

Binji statuette. Wood.



Fraser and Herbert Cole (eds.), *African Art & Leadership*, Univ. of Wisconsin Press, Madison, 1972; and in the same volume, Daniel Crowley, "Chokwe: Political Art in a Plebeian Society;" see also Georges Balandier, *Daily Life in the Kingdom of the Kongo from the Sixteenth to the Eighteenth Century*, Pantheon Books, New York, 1968. Daniel Biebuyck, *Lega Culture: Art, Initiation, and Moral Philosophy among a Central African People*, Univ. of California Press, Berkeley, 1973.

Arts of Congo in Exhibitions

"Art of the Congo," Walker Art Center, Minneapolis, Minn., 1967; Joseph Cornet, *Art of Africa: Treasures from the Congo*, Phaidon Publishers, Inc., New York, 1971; "Art from Zaïre: 100 Masterworks from the National Collection," African-American Institute, New York, 1975; William Fagg, "African Sculpture," International Exhibitions Foundation, 1969.



Teke diviner's staff. Wood, metal, cloth, feathers.

Hemba ancestor figure. Wood, fabric.



Sculpting the Woolly Mammoth

by Sylvia Massey As told to Gretchen Sibley

Photos by Ralph Massey



Color postcards of the woolly mammoth are available at the Natural History Museum of Los Angeles County Book Shop for twenty cents each.

To: Voltaire
From: The Tsarina Catherine II of Russia
Date: October 17, 1771
Subject: Mammoths

"If you are curious, sir, to see some products of Siberia, I will send you some collections of various objects which are common only in Siberia and rare everywhere else. But one thing that demonstrates, I think, that the world is a little older than our nurses tell us, is that one finds in the north of Siberia, several feet below the ground, bones of elephants which have not for a great time inhabited these countries."

To: The Tsarina Catherine II of Russia
From: Voltaire
Date: November 18, 1771
Subject: Mammoths

"I assure you that I am most astonished to hear of the skeletons of elephants found in the north of Siberia. It is with difficulty that I believe in fossil ivory, and I have also much trouble in believing in actual teeth of elephants buried thirty feet under the ice; but I believe Nature to be capable of anything."

One of the most interesting aspects of my career as a sculptor is the research necessary before a piece can be started. Thus I found myself in the research library of the Natural History Museum of Los Angeles County one day reading about Voltaire, the Tsarina, and mammoths. With the help of librarian Kathy Donahue and Roy Snelling, a Museum scientist, I began the fascinating study of the woolly mammoth.

The so-called woolly mammoth is the fossil elephant *Mammonteus primigenius* which lived during the late Ice Age, many thousands of years ago in Siberia and Alaska. Frozen remains have been found in the permafrost zones of these lands. The animals were about nine feet tall, covered by long thick hair and a thick underfur. The ears were small, the skull dome-shaped and the two tusks stretched out for about twelve feet, their tips curving back towards the animal's head.

While many fossil mammoths have been found, the following early accounts are of particular interest. In 1900 a group of Russian investigators found a frozen mammoth in Siberia and left an interesting journal, written as they stood in the snow, measuring hairs and counting toes on the hairy beast. The men suffered from exposure and long hours of work, surrounded by the overpowering odor of long-dead mammoth. With great effort the huge animal was excavated, dissected and loaded on ten dog sleds for its journey to the Leningrad Academy of Sciences. On October 23,

1900, Dr. Hertz wrote in his journal:

"After removing some 270 pounds of flesh, we started the raising of the abdominal skin, which proved to be still quite bulky. We decided it would have to be cut up. After raising the piece of skin, which weighed about 470 pounds, we discovered, to our joy, the entire tail of the mammoth. The joy that possessed us at this new find was so great that, lowering the skin to the ground again, we gave three loud cheers. We could not decide to cut up the still intact piece of skin, as we wanted to be able to take back this interesting object intact to the Academy."

Another frozen fossil mammoth, called the Benkendorf mammoth after its discoverer, came to a sad end. Mr. Benkendorf was traveling through the muddy waters of a flood caused by an unusually warm summer in Siberia, when he had a frightening experience.

"A huge black horrible mass bobbed up out of the water. We beheld a colossal elephant's head, armed with mighty tusks, its long trunk waving uncannily in the water, as though seeking something it had lost. Breathless with astonishment, I beheld the monster hardly twelve feet away, with the white of his half-open eyes showing. 'A mammoth! A mammoth!' someone shouted. The mammoth was secured with chains and ropes and dragged onto the bank. It was in an upright position and had apparently sunk in a bog thousands of years ago. A quick frost then froze it in position. I could not divest myself of a feeling of fear as I approached the head. The open eyes gave the beast a life-like aspect, as though at any moment it might stir, struggle to its feet and bear down upon us with a stentorian roar." However, he did approach, began to cut off the tusks and examine the stomach contents with the help of his friends. Suddenly the undermined bank gave way and the prized mammoth was swept away in the current, sank from sight and was never found again.

Paleolithic man was familiar with the beasts, apparently hunted them for food and left numerous fine cave paintings of them throughout Europe. Perhaps in hunting the mammoth they helped carry them into extinction, though the change in climate undoubtedly had a great influence.

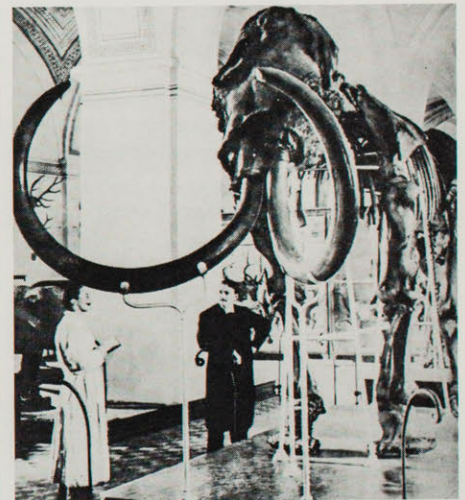
Some mammoths were found by tracing the source of fossil ivory being used by carvers producing beautiful figures, small boxes and jewelry. Single tusks sometimes reached a length of over thirteen feet and weighed 185 pounds, sufficient material to keep an artist busy for a number of years. Even great loads of ivory from the fossil animals were shipped from Siberia to be

carved into such items as billiard balls and piano keys.

Since the animals were found frozen, scientists have been able to study the body organs, food frozen in the stomach, muscles and skin. Adding to that the pictures left by early man, we have been able to reconstruct the mammoth in great detail. With all this information well in hand, I began another part of my research. I measured and compared a number of skeletons and went back to my file for more details from the young African elephant which I had once sculpted. And, of course, many happy hours were spent with two elephant friends at the zoo, watching their antics and movements.

All my measurements had to be reduced to produce an animal fourteen inches long and twelve inches tall. A steel armature was then constructed, ready to accept and support the body of modeling clay (Fig. 1).

The most important part of the work is packing the clay around the armature and sculpting every detail down to the last hair, taking care that the animal be scientifically



Skeleton of a Mammoth, Lena 1799 (original photograph in the archives of the Zoology Museum of the Academy of Sciences, Leningrad)

accurate (Fig. 2). Four months were to pass before this painstaking process was completed (Fig. 3).

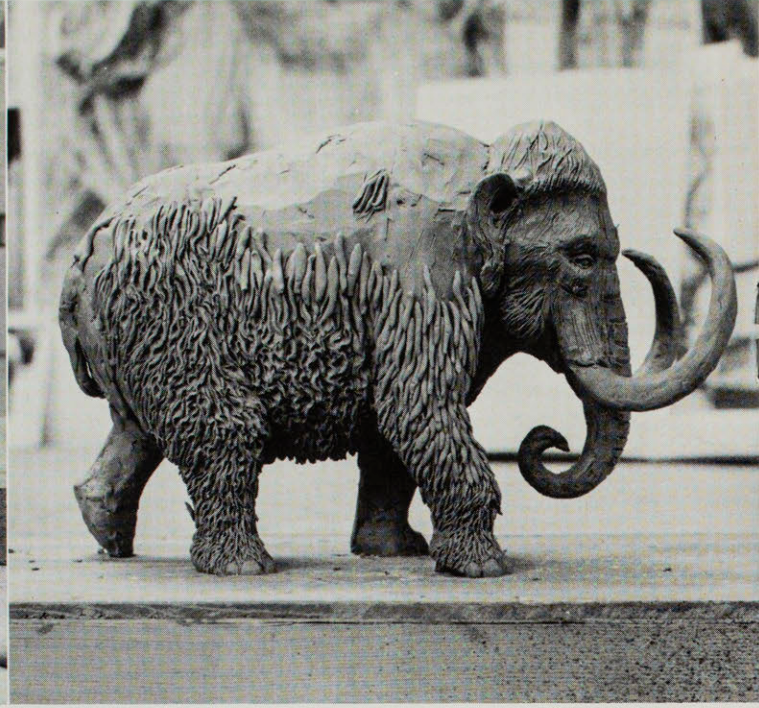
A mold housing in the form of a box (Fig. 4) was then built to fit around the animal. After the housing was tightly sealed, the liquid rubber molding material was poured into the box and allowed to harden.

When the housing was opened, the rubber mold was cut open revealing the clay model (Fig. 5), but as the rubber was cut, the clay model was destroyed. The mold was cut in such a way that the various parts could easily be assembled to accept the resin for the finished animal (Fig. 6).

Finally, resin was poured into the mold



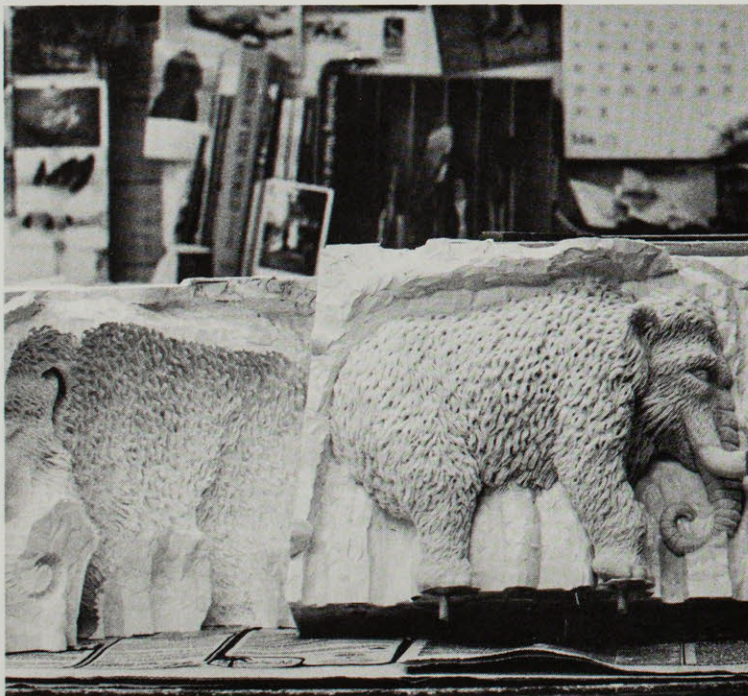
(1) Steel armature and sculpting tools



(2) Mammoth partially sculpted of clay

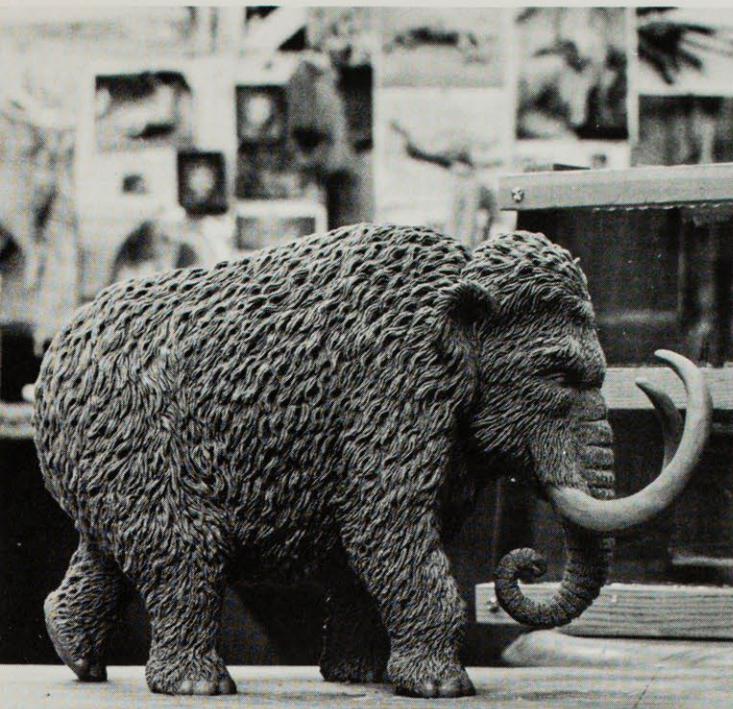
16

(5) Clay figure with part of mold removed



(6) Completed mold ready for casting material





(3) Completed clay model of mammoth



(4) Boxed figure and material for mold

(7) Sylvia Massey putting the finishing touches on the completed cast



and allowed to harden into a cast. While this was the final step in producing the figure, more hours were required to sand down, file and rework the details (Fig. 7). The animal was then polychromed with oil paint and mounted on a base of plexiglas.

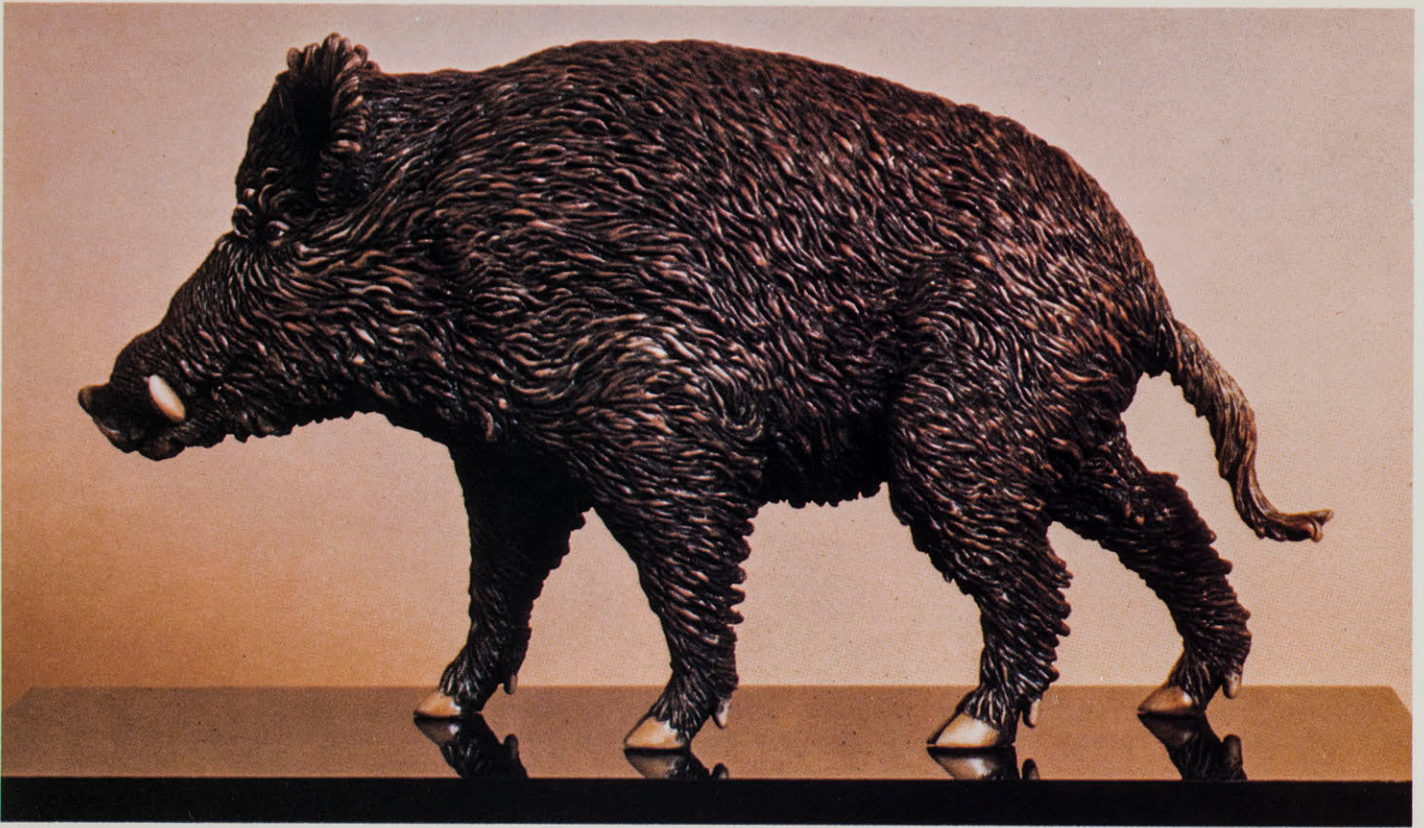
This is the technique I use in making all my figures, but the discoveries from research such as I did at the Museum are always different and challenging.

The study of the mammoth has been my favorite so far. In the past I've enjoyed a live rabbit model, and a study of Africa with its modern elephant and ugly warthog. But a great mammoth hunted by early man and preserved in permafrost for thousands of years was a special creature.

"Lumping through the oak-swamp, vast and dim and gray,
I have watched the mammoths pass at dusk of day;
Through the quaking hollow, through the tree-trunks stark,
Gleams of mighty ivory breaking up the dark."

P. R. Chalmers

Sylvia Massey's work has been shown in galleries and museums throughout America. Her work and techniques were featured in Thelma Newman's book, "Plastics as Sculpture." Special thanks are expressed to Roy Snelling, Associate Curator, and Kathy Donahue, Librarian, for their valuable assistance in her research.



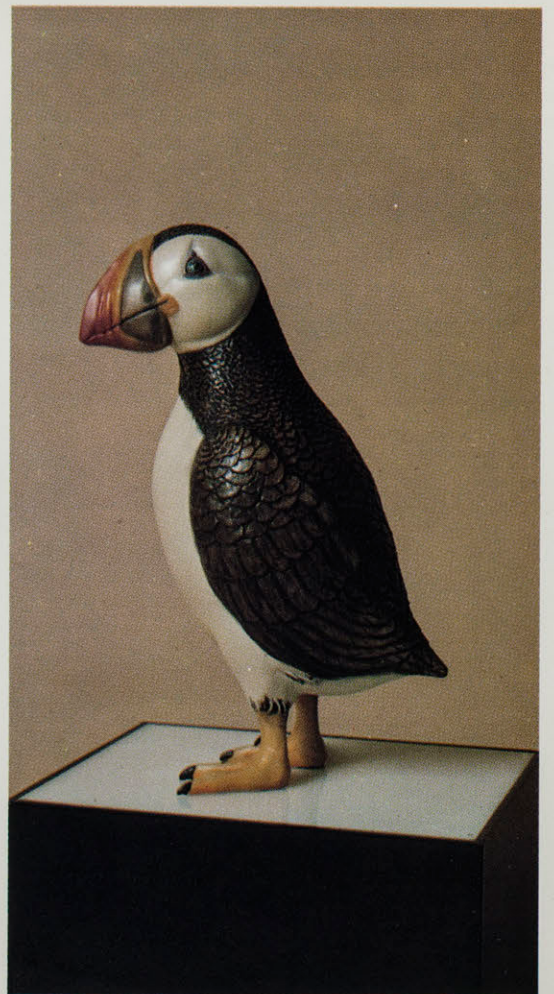
Wild boar



Mandarin



Camel



Puffin



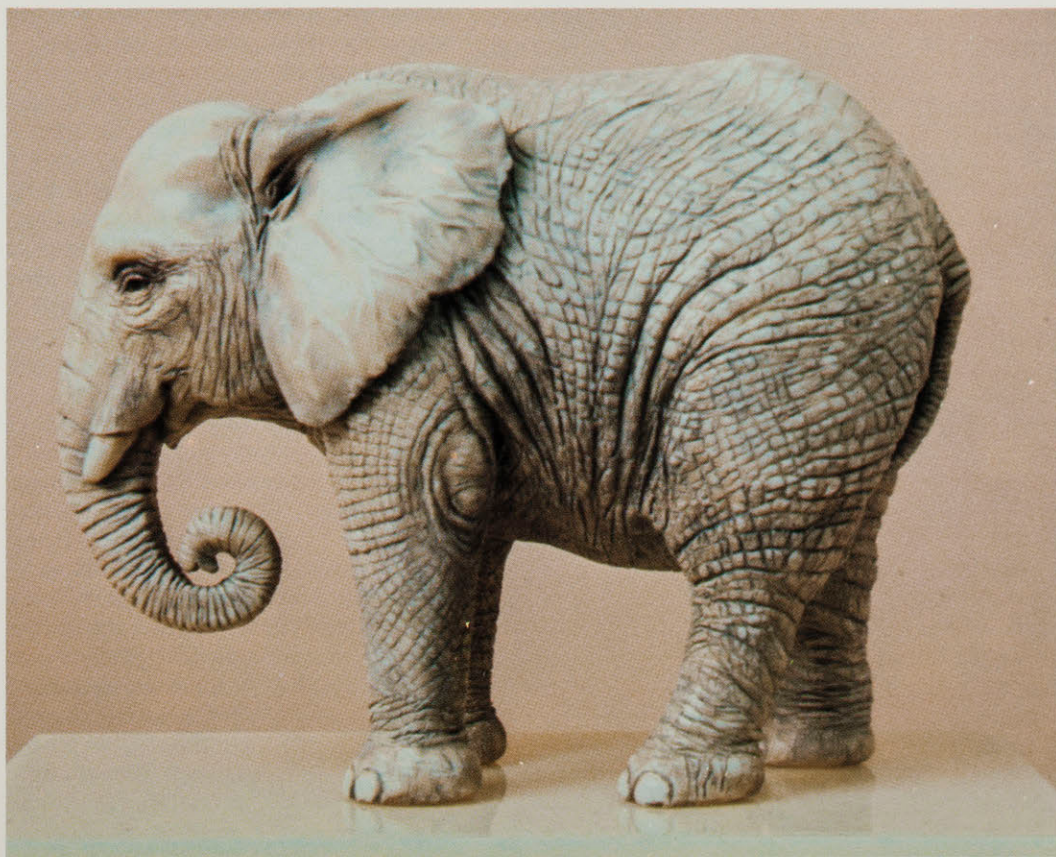
Dodo



Wart hog



Rhinoceros

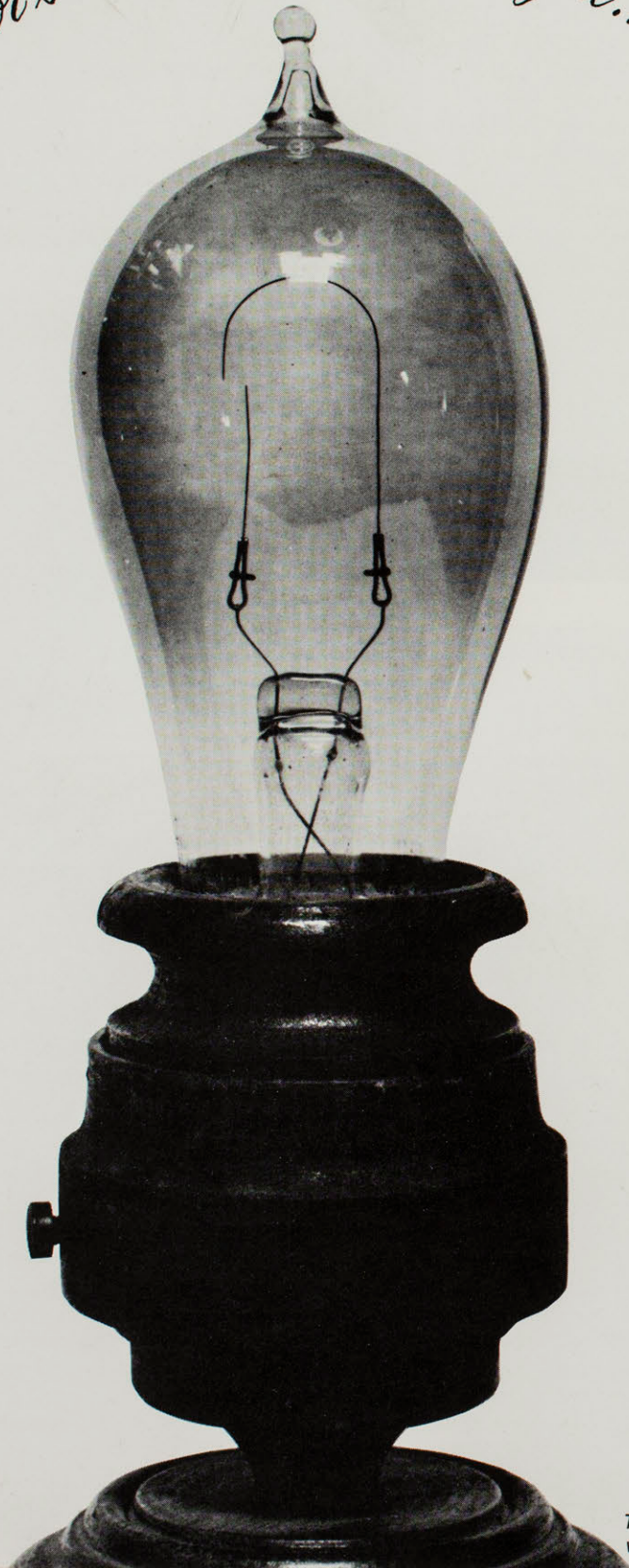


Elephant

Discovery!

or someone turned on the light...

by Norwood Teague



*The light bulb
with wooden base and socket.*

Discovery has been an exciting part of my life at the Natural History Museum of Los Angeles County during the past ten years. That's while we've been rummaging through, pulling apart, and commencing the cataloguing of the prodigious and amazing material Ransom Matthews, Curator of Industrial Technology, 1929-1964, collected during his thirty-five years at the Museum. We have found historically significant literature and objects in transportation, photography, motion pictures, electronics, and mechanics.

Some equal but none surpasses the discovery, or rediscovery, made a few months ago. Stored for years with the bulk of the photographic apparatus, this object was regarded as possibly an early attempt to use the incandescent lamp as a photographic flood light. This "light bulb" and socket of obviously early design, mounted on a gas pipe with valve and with a "white-washed" reflector, was of very crude construction, seemingly jury-rigged. This was, without question, a home-made device.

Assumptions such as these are pitfalls that must be constantly avoided but so often entrap us, especially when we have limited knowledge in a particular area. We must be vigilant for clues that build toward positive identification of those relics that are in doubt, and the clues come in so many interesting and diverse ways.

During the course of the last four years we have been in the process of cataloguing, adding to, and recataloguing both the radio vacuum tubes as well as the incandescent (vacuum tube) lamps. One day about six months ago I was thumbing through a copy of *Popular Electricity (in Plain English)* for 1910 when I recognized a picture of an incandescent lamp. "We have a copy of that picture!" I turned the page. "My gosh! We have that light fixture!"

There it was — the crude, jury-rigged construction pictured mounted on a wooden wall — one of the three remaining (in 1910) fixtures of the first Edison commercial land installation of incandescent lighting!

In 1880 a young man by the name of Joseph Hinds had heard about Mr. Edison's new invention. But let Mr. Hinds tell the story in his own 1910 style:

"In the year 1880 my firm, Hinds, Ketchum & Co., was engaged in the business of color printing at 104 Fulton Street, New York City. This was in the very heart of the busiest section and probably the most congested manufacturing and business district on the continent.

"In the month of October in that year we were visited by a gentleman who was gathering statistics regarding the number of gas lights in use and the cost of same.

Upon inquiring into his purpose we were informed that he represented Mr. Thomas A. Edison, who was experimenting with a new system of lighting at his laboratory at Menlo Park, New Jersey. We were not entirely unfamiliar with this fact, as the newspapers had occasionally printed items about the 'Wizard of Menlo Park' headed 'Lighting over the Snow,' etc., and stating how, on certain nights a number of lights had mysteriously sprung into existence apparently without any human agency, and of other strange happenings. At that time my firm was erecting a factory building at 449 and 451 Water Street in New York City and being anxious to have it equipped with every modern appliance, the agent was asked as to the possibility of having that building fitted out with the new lighting system. He stated that nothing of the kind had as yet been done and expressed his doubts, but at his suggestion I went to Menlo Park and saw the entire system in operation. Mr. Edison was then, as now, a very busy man and no respecter of persons.

"As I left the train I saw two men waiting on the railroad platform and afterward ascertained that they were the two best known financiers of New York who were returning after vainly seeking an interview.

"After three or four visits I succeeded in meeting Mr. Edison, presented my request to him, pressed the matter upon him with youthful enthusiasm, told him that if he would give me the light I would promise not to enter any gas into the building, depending for light entirely upon his plant and much other argument of the same import although I felt I was taking great chances in making this very radical condition. While this may not have affected his decision in the least he finally told me that he would comply with my request and shortly afterward we received at our new factory a dynamo which had been taken out of the laboratory works. This was known as an 'Edison Z dynamo,' 55 volts, capacity about 150 eight candle power [about 10 watt] lamps. This was set up and connected with a small upright [steam] engine of about ten horsepower so geared as to drive the dynamo at 1700 turns per minute. The wiring throughout the building was done by a man whose only previous experience had been with electric bells and similar work, and as no insulated wire of the necessary gauge was obtainable, the original trunk line was of naked copper wire fastened directly to the walls or girders by double pointed tacks [staples]. The joints and connections were not soldered but merely scraped and twisted together. At first there was no automatic apparatus

[fuses or circuit breakers] of any kind; not even safety plugs, and on one occasion, when the lights suddenly turned a dull red and the engine labored heavily, a disaster was averted by the discovery of a large file which an intelligent plumber laid across the two lines of wire. On reporting this incident the trunk lines were cut at intervals and the ends bent over, links of lead wire being inserted in the spaces.

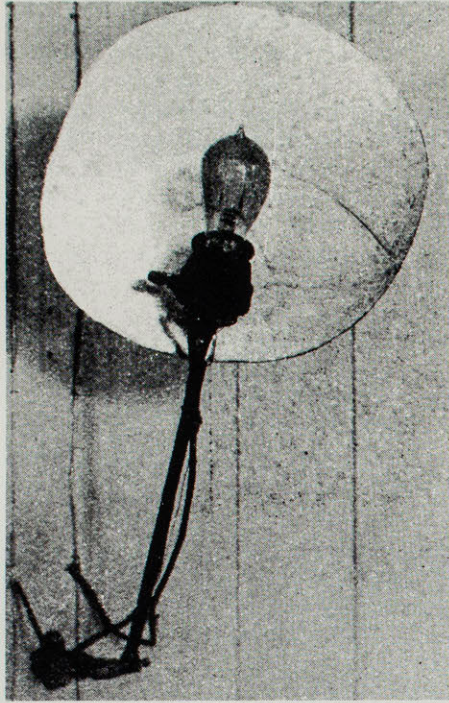
"In the first type of lamp received, the ends of the carbon were held by small German silver clamps fitted with watch screws. These lamps were very short lived. The bulk of metal [probably in the naked copper trunk wires] caused the current to often spring an arc and the average life of the lamps was not many hours; some of them not many minutes, as the voltage was constantly varying, not being under control. These lamps were keyless and could not be extinguished by loosening them in the sockets. When the plant was first installed a full compliment of lamps was supplied with some extras, but these were soon exhausted and several boxes of lamps were sent us at short intervals, the shipments being increased to barrels, each lamp being carefully packed in straw. These lamps were necessarily expensive. I was told that the cost was \$5 to \$10 each and when I spoke to Mr. Edison on the subject and expressed my regret at our apparent extravagance in the matter of the lamps he said, 'Don't mind that. We are improving them all the time and you and I will live to see the day when lamps will be made for less than thirty cents each and will last several thousand hours.' Which prophecy has been fulfilled.

"... The fixtures were ordinary gas pipe and fittings, the only material available at the time ... The shades were of my own design, made by a neighboring tin smith, painted white inside and green outside. This, with some modifications in size and shape, is still the prevailing fashion in such things.

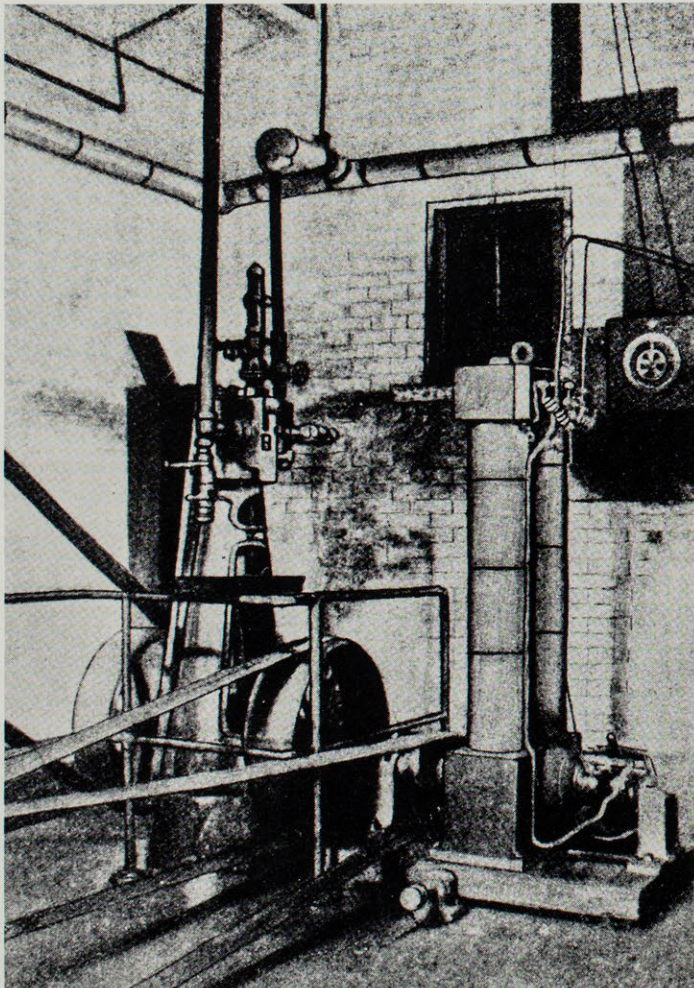
"The night in December, 1880, when all was ready to switch on the current for the first time to light up the building with this mysterious agency, was to mark an epoch in the world's history. It nearly marked one for me, for in the excitement of the moment, standing beside the engine, which was running at full speed, and leaning over to throw on the switch, my coat caught in the belt and I was thrown violently to the floor, happily without any other injury than a temporary disappointment. A few moments later, in the presence of my partners and our principal employees, the little lamps were illuminated with a dull red glow which gradually brightened into what seemed a

The fixture as installed

Thomas Edison



The power plant at Hinds, Ketchum & Co., showing the vertical steam engine at left and the "long-waisted Mary Ann" dynamo at right.



dazzling light and we stood speechless with wonder in the presence of the greatest marvel of the century.

"This plant, with occasional improvements and changes, continued to run in the same building for nearly four years thereafter, when it was removed to Brooklyn and the dynamo again set up as an auxiliary and was run up to a few years ago when a vandal hand consigned it to the junk heap. In the pressure of other business this matter was lost sight of and gradually the remnants of the plant have disappeared, until now only a few individual specimens remain. Of the first type of lamp that was in actual use only three specimens are in existence. One in the National [Smithsonian] Museum in Washington, one in the hands of an enthusiastic collector and one in my own possession . . ." (In *The Beginning* by Joseph E. Hinds. "Popular Electricity in Plain English" II [January 1910], pp. 570-576.)

The lamp fixture, in the hands of an enthusiastic collector, has apparently disappeared during the intervening years. The one in my own possession was left to his son, Samuel S. Hinds, who practiced law in Pasadena for thirty-five years before retiring to devote the remainder of his life to his first love: acting. As a character actor in motion pictures he specialized in kindly fathers and crooked lawyers and may be remembered as the tobacco chewing judge in "Destry Rides Again," with Jimmy Stewart and Marlene Dietrich.

When Mr. Hinds died in 1948 the fixture was given to the California Institute of Technology which in turn transferred a number of pieces of historical electrical material to the Museum in the early 1960's. The fixture is now on exhibit, along with other significant early incandescent lighting material, in the foyer of the Library at the Natural History Museum of Los Angeles County.

Norwood Teague is Curator of Industrial Technology at the Natural History Museum of Los Angeles County. The exhibit he has put together on the Ground Floor, in the foyer outside the Library, is well worth a visit.



Arts of Africa

Pictured

Mashamboy — Initiation Mask — \$1,200 (long face)

Traditional

Dogon, Senufo, Bambara, Baule Yoruba, Dan and Ibo figures and masks, old lock, stool, ancestor figure

Textiles

Mud cloth. Dahomey applique. Kente, Adrika, Kharogo, and Adire cloth.

Jewelry

17th - 20th century trade beads, Swahili silver, Bushman, Turkana and Masai pieces, original creations using rare findings.

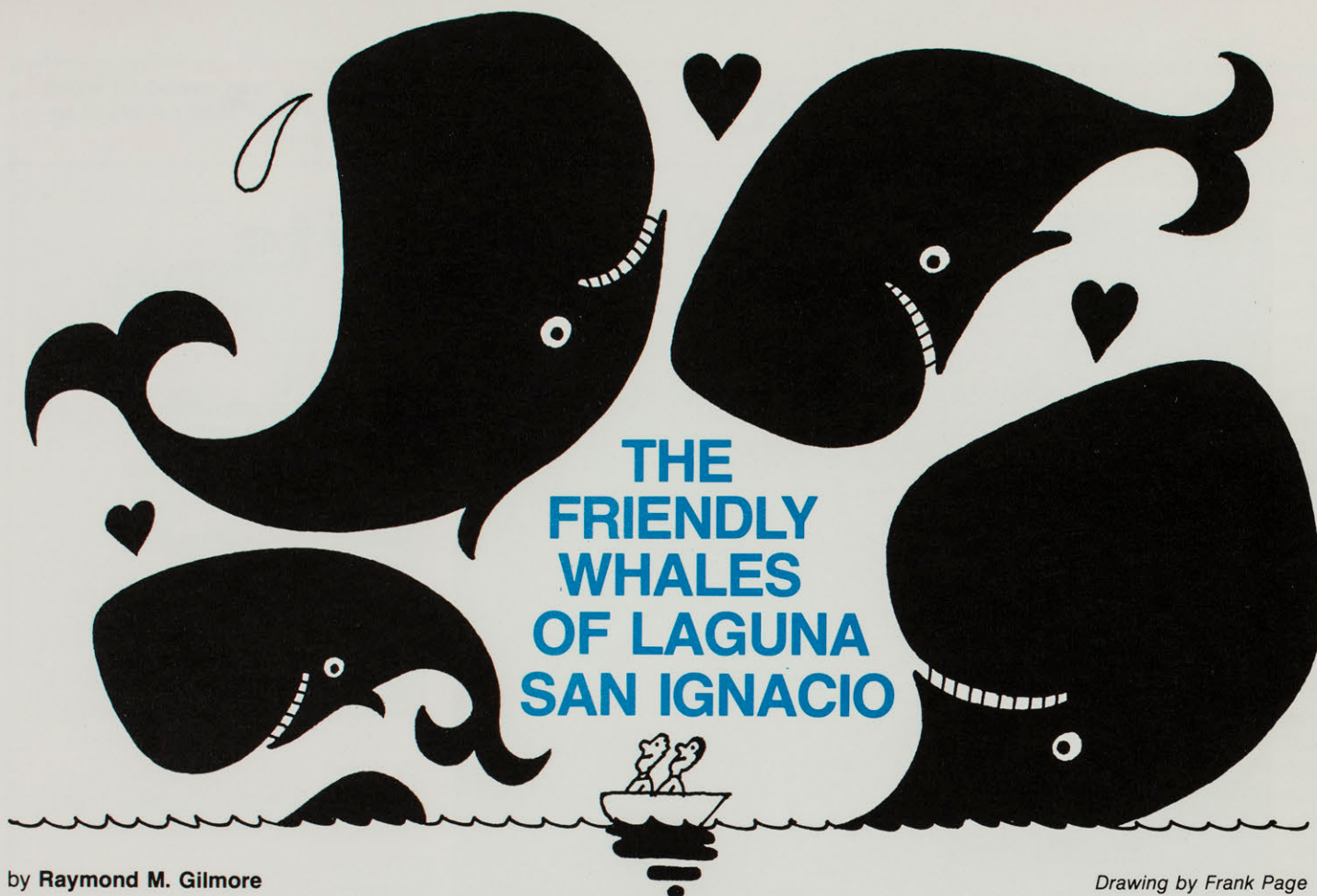
Musical Instruments

Crafts — Incised and decorated gourds, baskets, tribal dolls, beaded work, Ashante and Baule gold weights, cast bronze artifacts from Benin, aluminium panels.
\$5. to \$5,000.

Fashion Show, Music and Dance

Saturday, September 18; Sunday, September 19 at 1:00 PM

Clothing — Traditional and original designs from 15 countries. Special presentation of six designers from African Heritage, Ltd., Nairobi.



by **Raymond M. Gilmore**

Drawing by Frank Page

24 23 February 1976. Laguna San Ignacio, west coast Baja California, 430 nautical miles south of the California border. Aboard the sportsfisher, Qualifier-105, a Natural History Museum Alliance charter with more than thirty passengers aboard.

Over the radio-telephone from a nearby boat, the Royal Polaris, John Sloan, leader, talking, came a story I found hard to believe, to wit: A gray whale, female, was persistently playing around the ship and its skiff tied astern.

But it was true, as I learned to my amazement at various times during the next two days.

This very friendly whale would swim back and forth, around and under the larger sportsfishing boats, sometimes scraping the bottom with its back or head. Then it would leave, usually for no apparent reason, and then return in a while to repeat the performance a number of times.

Sometimes it would touch, nudge, or bump a skiff that was tied astern. But when people were in the skiff, the friendly whale would present itself alongside and solicit attention, in one case even ignoring an adjacent empty skiff. After recovering from initial shock, the people would reward the whale by rubbing or patting it on the head or back.

The friendly whale sometimes gently balanced and even elevated a rubber boat

on its chest, flippers outstretched, as if about to embrace the skiff. It would also do this, but with less stability, on its rounded back. Sometimes the boats were occupied but the whale never tipped a boat.

As it swam around the larger boat it nosed under the out-flow of water from the cooling system of the generators. It took an anchor-line in its mouth and was not perturbed by generator-noise, by flash-bulbs or flood-lights at night.

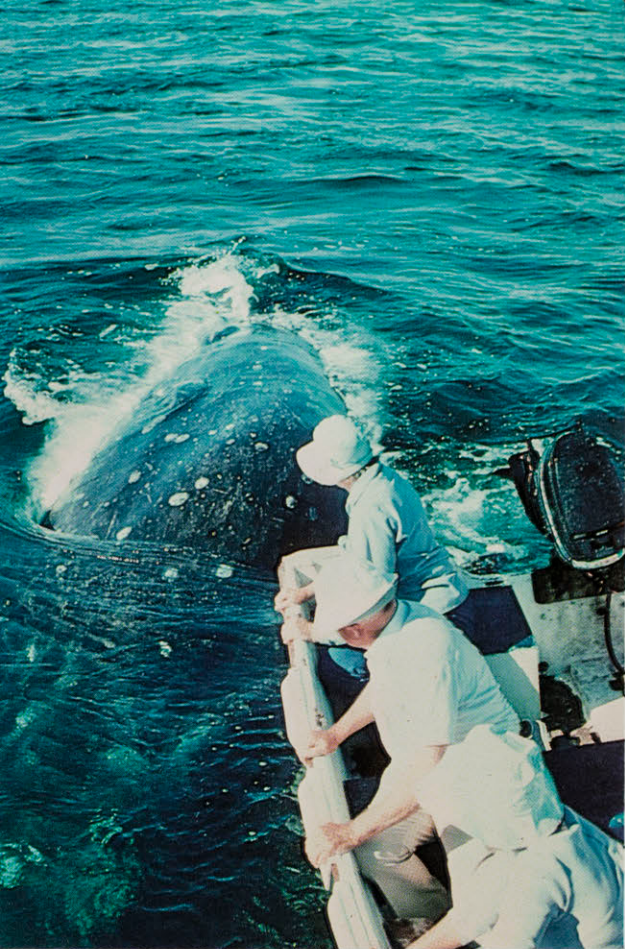
This outstandingly friendly whale bumped the large, inflated rubber-boats more often and with greater force than it did the wooden and aluminum-skiffs. The feel and dark color of the rubber was clearly like the skin of another whale, and seemingly desirable to touch as a playful companion. I speculated that this whale had lost a calf and was expressing care, finding a substitute in the form of the rubber boats. Or, as the vulva was swollen, it could have been sexually excited.

The whale sometimes thrust its head high out of water in a typical "spy-hop," open eye exposed as if looking at the people, and frequently it rolled first on one side and then the other, for a better view. Such was the gentleness and the superb muscular control of the huge body that its judgment of distance must have been extremely accurate. This in turn meant that vi-

sion, certainly monocular from the eye on the near side, must have had good resolution.

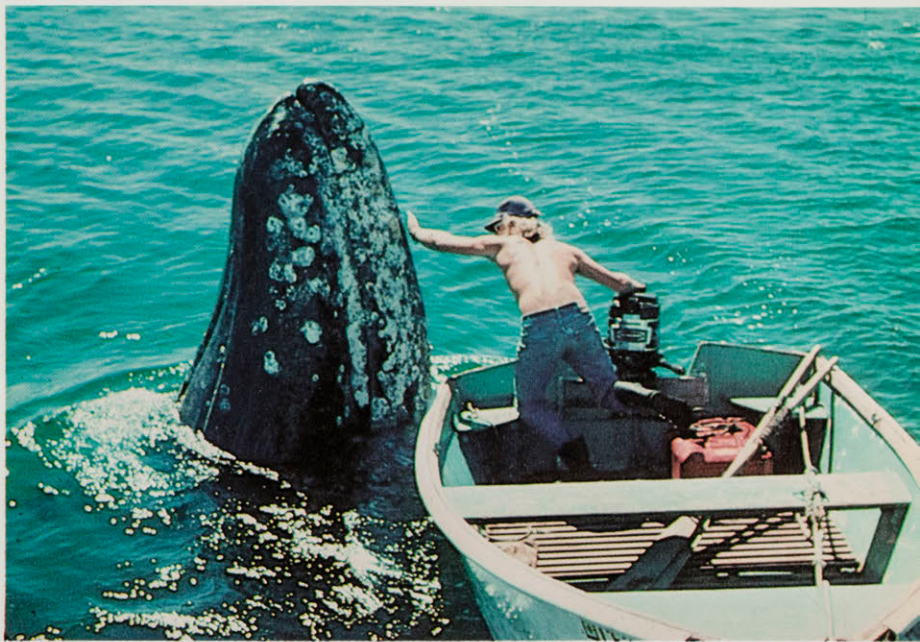
At times great volumes of air were exhaled underwater, rising in visible vertical columns, until the air broke at the surface in wide rings of foam and bubbles. Gray whales often blast these bubble-rings in the lagoons. The function, aside from possible purposeful communication of some message, is unknown to me. Such expulsion of air from the lungs could increase specific gravity and lower buoyancy, allowing for easier sinking without the aid of swimming. But the friendly whale more often seemed to "let-go" — an old whaler's term — without loss of air and without obvious swimming action. Turning the fore part of the flexible body downward, however, and giving a slight inconspicuous kick with flukes or an equally inconspicuous stroke with the flippers, might accomplish the same result. Such forceful exhalation of air even occurred directly under an empty rubber boat, lifting it partially out of water. This blast of air seemed intentionally placed and directed.

Most of us aboard the Qualifier-105 touched or rubbed the friendly whale. And one crewman, Ron Acosta, kissed her on the snout. This intimacy was topped by a crewman of another boat, Mike George, who hugged the lady-whale around the nar-



*Friendly whale, almost full length, at skiff.
Photo by F. Dean*

*Friendly whale spy-out and contact with skiff.
Bobby Allen reaching. Photo by Jim Mang*



row ends of the jaws as she held her head vertically in a spy-out alongside the skiff. Another crewman from a third sportfishing boat even stood on her back before sliding off, as the friendly whale rolled over. This was almost like "ride 'em whaleboy", but get back aboard ship quickly. While the gray whale is a baleen-whale, without teeth and thus unable to bite, it can gum you to death.

TERRA posed the question in its last issue, "Was Gigi the friendly whale?" So unusual was the behavior that belief rose quickly among a number of us that the whale could only be Gigi, the famous gray whale which was raised for the first year of its life in tanks at Sea World, San Diego, March, 1971 to March, 1972.

Gigi was twenty-seven feet long when released in the ocean at age one. At age five, now, she *could* have been around thirty-five feet. When released she had white scars on neck and belly and over the upper surface of the flukes. But scars involving only the dark epidermis, though white for a while, soon disappear in cetaceans as the black skin regenerates. This can occur in a year or less, according to Dr. David W. Kenney, DVM, formerly at Sea World, Gigi's captor and pediatrician for a year.

Scores of people from a half-dozen boats took thousands of pictures. I listened to

numerous accounts and received excellent written reports from Fran Broomfield, Ernie Moor, and Fay Wolfson. These verbal and written descriptions, verified by photos, covered February and March, and showed our same friendly whale.

Estimates of the length of the friendly whale varied from twenty-eight to thirty-five feet, always measured by comparison to a fourteen-foot inflatable rubber boat or a sixteen-foot wooden or aluminum skiff, or the beam of a sportsfishing boat under which the whale lay crosswise.

The sex was judged by some to be "probably male" or "probably female". But photos of the underside later showed that it was definitely female.

There were three patches of barnacles on head and neck which were so characteristic in size and position that identification of the head was possible in photos taken on different occasions between the 18th and the 25th of February. I have not seen pictures taken prior to the 18th.

Finally, a prominent lump or swelling about six inches in diameter and height, on the underside of the tail-stock, three or four feet ahead of the flukes, was conspicuous and probably unique to this individual.

Gigi was a female and the very friendly whale was a female. In addition Gigi had played with a rubber raft in the tank at Sea

World, according to Bud Donahoo, one of Gigi's caretakers, much as the friendly whale had done with the inflatable rubber boats in the lagoon.

The whale also accepted with apparent pleasure a scrubbing on the head with a long-handled neck-brush wielded by Bill Elliott on another boat. Later Bud Donahoo reported that Gigi "just loved to have her back scratched with a brush and we did it all the time."

Gigi had also been tethered the first day and night of capture by a rope around the peduncle, or "small" of the tail. This had rubbed off the black skin on the upper surface of the flukes. Dolphins so caught and held, according to Dr. Kenney, have been known to grow cysts over an injury to a bony joint of the tail. Dr. Kenney added that the unique transverse white scar across the belly, made when Gigi lay across a rope during transport by boat to San Diego from Laguna Scammon (*Ojo de Liebre*) where she was captured was becoming much narrower a year later when she was released. A capture-rope over the flukes had rubbed off the black skin which also healed with a temporary white scar. There was also a rectangular freeze-brand on Gigi's back just aft of the nostrils. All these could have disappeared by 1976.

Sightings of Gigi had been reported dur-



The two throat grooves on friendly whale show plainly, revealing she is not "Gigi."
Photo by Bill Cornyn

Friendly whale on back, touching rubber boat with flipper. Photo by Wendy Cooper

Friendly whale: Ventral view, showing navel, swollen vulva, and swelling on tail-stock.
Photo by Wendy Cooper

ing the two years after release, in waters off the coast of southern California during winter migration, once in 1973, quite reliably at Palos Verdes by Caroline Smith, docent of the Natural History Museum in Los Angeles. The other sighting, in 1974 at San Diego, was highly doubtful. Gigi was also reported seen in 1975 in *Laguna Ojo de Liebre* (Scammon Lagoon) where she was captured and where she might return.

Thus there were great hopes by some that a good clue to Gigi's survival was at hand in San Ignacio Lagoon, a place she had probably never visited before since she was captured at Scammon. After all, what gray whale would actively and persistently seek the company and the touch of humans except one raised in captivity at an early age? And Gigi was the only gray whale well acquainted with human beings.

There was talk of sending Bud Donahoo or another of Gigi's old pals at Sea World, Sue Bailey, to Laguna San Ignacio to swim with the friendly whale, and to give the touch-signals to which Gigi had responded so consistently at Sea World. Lee Rognlie and Debbie Hanlon had worked closely with Gigi as "mothers," and might identify her.

Dr. Kenney maintained that the only proof-positive of Gigi's identity would be the presence of antibodies of inoculated disease-antigens, which Gigi had received

at Sea World. But this would involve taking a blood sample, a neat trick if possible. Dr. Kenney also suggested feeding freshly-thawed squid to the very friendly whale, because this was Gigi's favorite food after she had been weaned from her special formulas.

But all these confirmation plans proved unnecessary. Alas, the actual observations proved the whale hardly could have been Gigi. Examination of Fay Wolfson's photos at a TV studio, Channel 8 in San Diego, showed only two throat-folds, or grooves, on the friendly whale and Gigi had three. Gray whales have either two or three such folds at birth which are maintained into adulthood. It is doubtful that the number changes during growth.

The affair of the friendly whale of Laguna San Ignacio was astonishing. But the story does not end here, although neither I nor others in the lagoon in March saw our friend again; she had departed for the north.

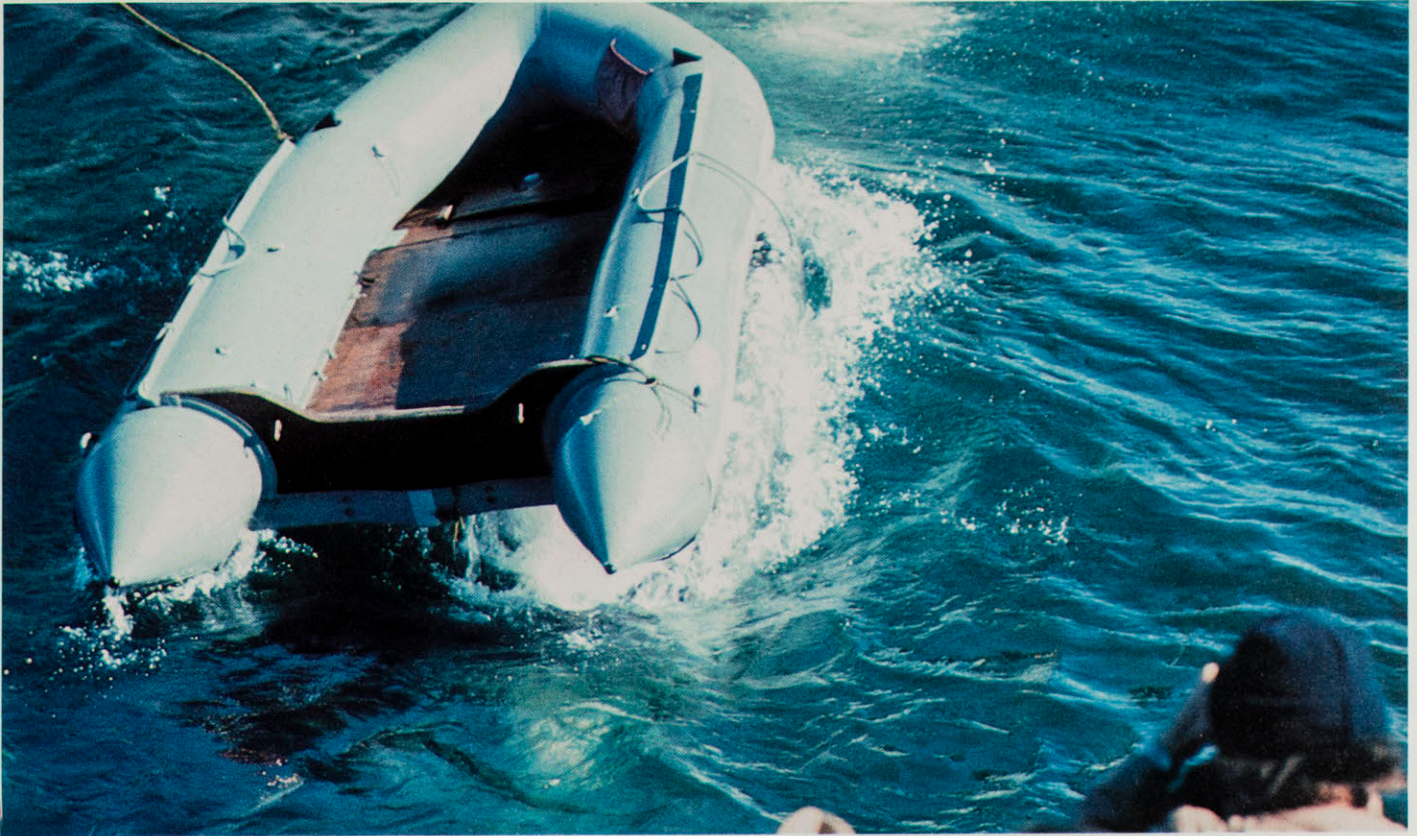
But there were other friendly whales, some of whom could have been friendly in the early days of February.

San Ignacio Lagoon is 440 nautical miles south of the entrance of San Diego Bay. It is one of four major lagoons or bays on the west coast of Baja California into which the California herd of gray whales gathers each winter, from late December through April

and early May. Here they calve, court, and care for the newborn "little ones," reaching twelve to seventeen feet in length, weighing 1200 to 4000 pounds. The other lagoons visited are, Black Warrior (*Guerrero Negro*), adjacent Scammon on the eastern shore of the great curve of Vizcaino Bay, north of San Ignacio, and finally, the complex of Magdalena Bay and its tributary waters, one hundred miles south of San Ignacio Lagoon.

The other friendly whales included cows with calf, an immature whale or two, and an unusual pair of "lightly courting" immatures or sub-adults seen on February 16th, according to an excellent and detailed description by Fran Broomfield. Once three cows with calf came alongside a skiff in March, presented their heads vertically as well as horizontally and received rubs on the head by passengers. The flukes of one, on a dive alongside the skiff, extended over the gunwale and brushed the head of Azalea Gorby, librarian at the San Diego Natural History Museum.

Calves of the gray whale have long been known to approach skiffs and much larger boats out of curiosity, sometimes coming close enough to be touched. In these cases, especially if the female attempts to place herself between the skiff and the calf, the skiff is moved away rather quickly to



Friendly whale expelled air under water, which created foam and bubbles at surface. Photo by Janet Cornyn

avoid a possible charge by a nervous and protective mother. The younger the calf, the greater the chance of a charge and of an upset boat. Don't forget that it has happened. But in other cases, the cow has shown complete indifference or may share the offspring's curiosity.

We are interested here, however, in the approach and especially close following of a skiff by immatures and adults. These cases usually have been viewed with some apprehension by those in the skiff. Though many of these cases can now be interpreted in favor of the whale, the remote possibility of danger is still there, as one victim I know, Dr. William Evans, can testify. These contacts have involved single whales usually, probably immatures because they were about thirty-five feet long. The playful whale, if twenty-eight feet, could have been thirteen or fourteen months old. If it were thirty-five feet, it *could* have been an immature animal of four or five years.

Courting pairs and especially trios, and tetrads, common in the lower or outer parts of lagoons, have also been indifferent to the presence of boats, especially if the approach has been quiet. But, if disturbed by noise or by the sight of a hull almost over them, or of an oar-blade suddenly dipped in the water a few feet away, they cease their amorous antics and depart without attack,

although occasionally a fluke will brush or tap the boat. In one case, however, two sub-adults, "lightly courting", followed a skiff time and again after the skiff moved away and stopped.

The friendly, solicitous whales in Laguna San Ignacio were unique in my knowledge. Despite four years of entry of sportfishing boats into Laguna Scammon, 1971 through 1973 (after which the Mexican government closed the lagoon to sportfishers), there was no similar behavior. Boats and skiffs could scatter widely, however, over Laguna Scammon when several boats were there at the same time, for there were ten to twenty square miles of channels and other operable areas available to the boats.

In Laguna San Ignacio, however, the boats and skiffs are concentrated, because of the lagoon's small size, in about three square miles. Whales in this lower and navigable area of the lagoon have thus been almost constantly associated with boats and skiffs including Mexican fishing pangas. Therefore there could have been a closer and more continued association of boats and whales, to which the whales gradually adjusted in steps, such as:

- 1) indifferent tolerance of ships
- 2) then curious approach
- 3) then voluntary play with inactive rubber boats or skiffs that were tied

- astern of larger boats, and finally
- 4) active and persistent solicitation of attention from people in small boats by the boldest whales.

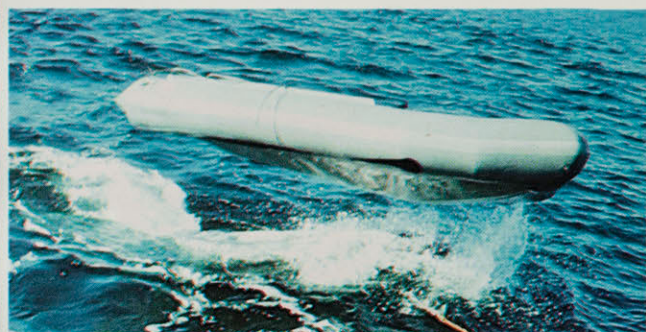
The reward for this behavior has been body contact with the rubber boats and skiffs and rubbing and patting by people. Such rewards quickly reinforced their friendly behavior. The pleasure of a touch-stimulus through body-contact is obvious among gray whales.

1976 was the third successive year sportfishers visited Laguna San Ignacio to see the gray whales. But 1976 was the first year that the attention-soliciting behavior occurred, most pronounced by one individual, the outstandingly friendly whale.

If three years have been necessary to build a friendly attitude among whales, we can conclude that some of the same whales have returned to Laguna San Ignacio, at least since 1973. And some whales undoubtedly do return to the lagoon of their birth or where they have subsequently established themselves. The whales which by-pass a northern habitable lagoon to enter a more southern one later, are certainly showing some territorial home-orientation. This is a point against Gigi in Laguna San Ignacio, since she was captured in Scammon. Yet there probably are shifts in home lagoon, particularly by males



Ray Gilmore rubbing head of friendly whale.
Photo by Wendy Cooper



Friendly whale butting Avon boat in air.
Frustrated because no one there?
Photo by Bill Elliott

Friendly whale showing characteristic patches
of barnacles. Photo by Bill Elliott

accompanying non-pregnant females, or by females forced by imminent birthing, or by yearlings following adults.

If it takes more than one year to acquire the friendly habit, a yearling of twenty-eight feet could not be the very friendly whale. Or perhaps curiosity in a calf, carrying over to the next year in a more pronounced form, is what we are seeing.

In animal and human behavior there is a type called duplicative. This is not quite the same as imitation, which is more conscious, purposeful, and intentional copying. Duplicative behavior is the involuntary repetition of another's behavior for some reason, perhaps just to see what is going on! Could the friendly whale have served as an example to others for duplicative behavior? If so, the example must have been a form of unintentional communication. And, on several occasions, a second and even a third whale closely approached a sportfishing boat where the friendly whale was performing, and several times a cow with calf did so. Finally, on other occasions, the friendly whale joined another whale after departing from a skiff or larger boat, according to Fay Wolfson. It might have been other whales which performed in March after the departure of the very friendly one.

There is another interesting aspect of this exciting and spectacularly friendly associa-

tion of whales and boats in Laguna San Ignacio. This friendly association suggests that sportfishing boats and their skiffs have not been harassing the whales, disturbing their calving, nursing, and courting, as has been contended. But even this pleasing spin-off can suffer from an excess of boats in the lagoon at a later date.

Will the Very Friendly Whale return next year? She may not be identifiable by the patches of barnacles, because barnacles do not live as long as their host, and patches come and go after a few years. But the sex and the unique lump or swelling on the underside of the tail-stock, along with the size of the whale, should be a combination hard to duplicate. Stay subscribed to *TERRA* for further reports.

Raymond Gilmore, famous whale watcher, is Research Associate, Marine Mammals, San Diego Natural History Museum. This is his second TERRA article about whales.

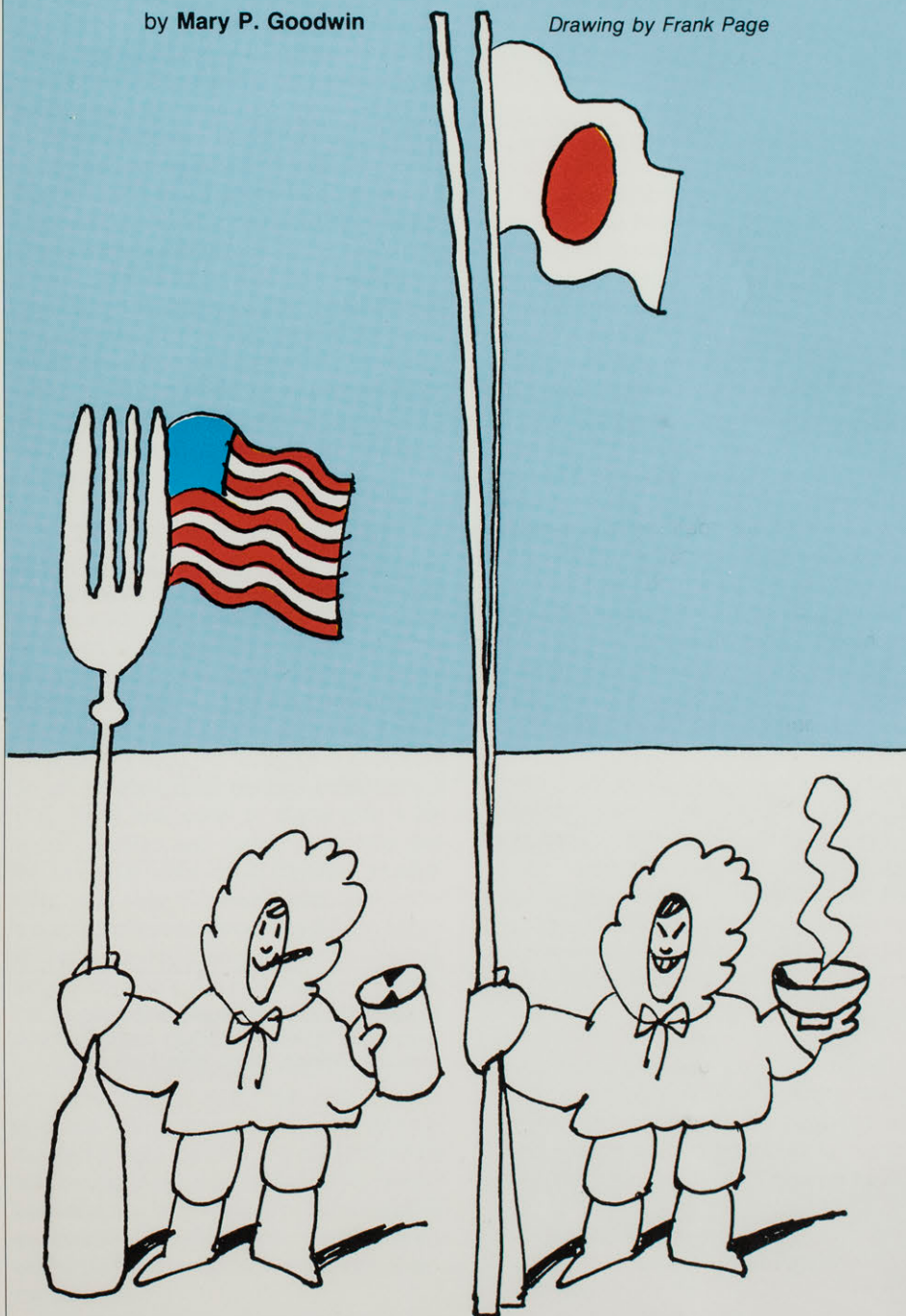
About twenty years ago, at the island of James Ross, off the Antarctic Peninsula, a British expedition formed the first "Pat the Whale Club." As ice formed and thickened over the sea in early winter, some 200 pygmy finner whales, also known as minke whales, became trapped at a number of small leads and eventually at smaller holes. As these breathing holes closed, the pygmy finners could obtain air only by high vertical thrusts to expose the head as far back as the nostrils, or blowholes.

The British team took advantage of this unusual situation to stand at the edge of the hole and successively pat a whale on the tip of the head, or jaws, as it rose to breathe. This exclusive antarctic Pat the Whale Club of eight members, now is joined by a much larger Pat the Whale Club of several hundred members, and under conditions in which the whales actively and persistently solicited the attention and the patting.

BRING YOUR OWN CHOPSTICKS

by Mary P. Goodwin

Drawing by Frank Page



Museum and other scientific expeditions always have supply logistics to consider along with research goals. Field trip planners devote much time and energy to gathering the proper food and equipment, which varies greatly with the climate in the area to be explored. Many countries are conducting scientific studies in the Antarctic. While necessity demands that much of the equipment be similar, national ethnic differences make comparison of some personal equipment and food interesting.

Partial List of Personal and Common Field Equipment, United States

Duraluminum tent stakes
Bamboo markers
Ice axe
2-man tent
small stillson wrench
aluminum plate
frozen filet mignon
paperback book
tobacco, matches

Japanese

Duraluminum tent stakes
Bamboo markers
Ice axe
5-man tent
welding machine
tea strainer and bowl
ajinomoto ('ajimo'-taste, 'moto'-source =
monosodium glutamate)
hair clipper
chopsticks with case

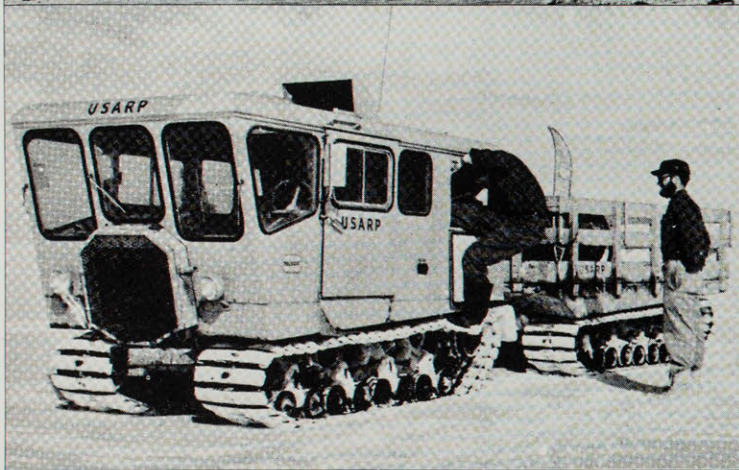
I am comparing one aspect of life on a field traverse (a sort of mobile camping trip) across the rugged interior terrain of the Antarctic continent. Men of several countries engage in this "summer" activity, filling in gaps in our scientific knowledge of this frozen land. There are small differences in most Antarctic field equipment. But each nation makes its traverse life as close to homelike as possible. With food and small comforts this is attempted for men who may be away from base for many weeks.

Most of the room in the tracked carriers and sleds must be filled with necessities for survival in that inhospitable climate and with instruments for scientific studies. There is little left for individual gear or luxuries. Before the days of tractors or motor toboggans, dogs, ponies, or teams of men pulled small sledges. There was a fine line between absolute needs and modest comfort and there was almost none of the latter. A foam rubber mattress for each man is standard today. A cold damp tent floor was the lot in the "heroic" days of exploration in the Antarctic.

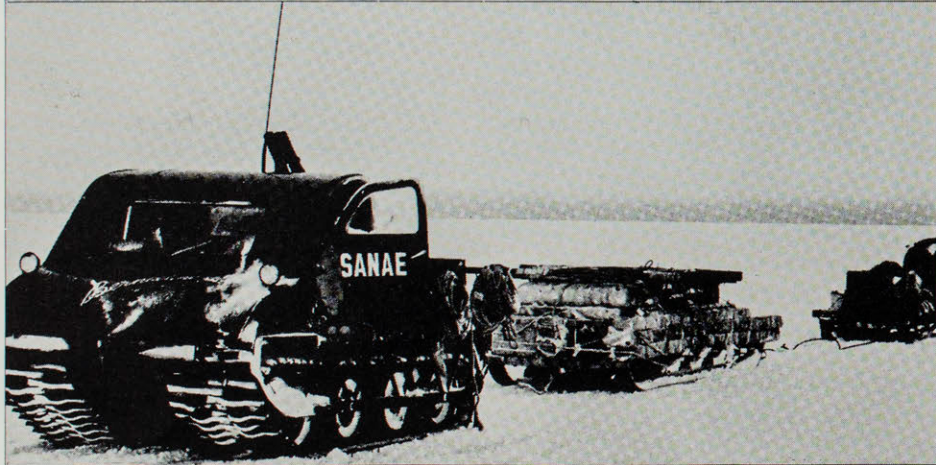
Here is part of an account of a sledging incident from 1911:



The old way . . . sledging with a dog team on the sea ice. Photo by New Zealand Department of Scientific and Industrial Research.



Modern "Polecat" snow tractor and sled. Photo by The Martin Company.



South African overland tractor traversing Queen Maud Land. Photo courtesy of SANAE base personnel.



Modern field research team, usually re-supplied by air-drop. Photo by B. Proctor. Antarctic Division, DSIR, New Zealand

"When I looked back it was in response to the anxious gaze of Mertz who had turned 'round and halted in his tracks. Behind me nothing met the eye but my own sledge tracks running back in the distance. Where were Ninnis and his sledge?"

"I hastened back along the trail thinking that a rise in the ground obscured the view . . . I came to a gaping hole in the surface, about eleven feet wide. The lid of a crevasse had broken in; two sledge tracks led up to it on the far side, but only one continued on the other . . . No sound came up but the moaning of a dog caught on a ledge just visible 150 feet below . . . Close by was what appeared in the gloom to be the remains of the tent and a canvas tank containing food for three men for a fortnight."

"Stricken dumb with the pity of it (Ninnis' death) and heavy at heart (for the loss of the tent and the food) we turned our minds mechanically to what lay nearest at hand. There were some rations on the remaining sledge, and we found that there was a bare one and a half weeks food for ourselves and nothing at all for the dogs. Part of the provisions consisted of raisins and almonds which had been taken as extras or 'perks' as they were usually called . . ." (*The Home of The Blizzard*, by Sir Douglas Mawson; J.B. Lippincott, 1914)

Sir Douglas Mawson was two hundred fifty miles and thirty days out from his Australian base when this tragedy occurred in an unknown white wilderness. That he lived to return to the base is a measure of his great wisdom and fortitude and careful husbanding of his and his companion's meagre food and shelter supplies. If such an accident occurred today (and accidents do still happen) radio contact would bring a U.S. Navy helicopter or plane with additional supplies and rescue personnel and the scientific probe could continue. In addition, now, sixty-five years later, instead of a dog team Mawson would be driving a tractor train providing ample warmth, comfort and many extra days of modern rations. He would eat a varied and healthy diet of five thousand calories per day instead of pemmican (suet and preserved meat cake), dry biscuits and cocoa. High caloric meals are mandatory because of the energy needed to fight the cold. He would know he was always in communication with a nearby base and had the possibility of an air drop or evacuation, if necessary. His life rarely would be threatened in today's long over-ice traverse.

With the increasing knowledge of logistics in delivering rations, supplies, and efficient vehicles to pull them, the spirits of the men on these treks remain high. At each na-

tion's base is a modern kitchen and storage facility. During the Austral summer, flights with fresh produce of all kinds are flown from New Zealand or South America. Supply ships off-load vast quantities of appetizing frozen and preserved meals of each culture. The French store their inimitable fine wines. Crates of cabbage and smoked sausages and pelermeny (a sort of Russian ravioli) are stacked at Mirny and Bellinghausen bases. At Roi Baudoin the Belgians grow sprouts and tomatoes hydroponically under artificial light, as well as lettuce and parsley. Meals on board the modern icebreakers of Argentina, Russia and the United States are the same you would find in the home countries. Amazingly, fine banquets on special occasions are as easily prepared "on the ice" as in an elegant Beverly Hills restaurant.

This is harder to do in the cramped space of an over-ice traverse, but great care is taken to plan meals and pack the provisions accordingly. Good and varied food is a major consideration for the morale of the men. The scenery and weather is often bleak and there is little diversion from travel and work. If a New Zealand group is to be out over Christmas, the standard ration boxes for that day will contain plum puddings and egg nog, frozen roast goose, steaks and ice cream. The problem, of course, is not keeping things frozen but the time-consuming effort of thawing over a small gasoline stove; freeze-dried food requires almost as much time to reconstitute. Fresh eggs, vegetables and Christmas mail will be air dropped to them for the celebration.

Accurate assessments of provisions per man-day is essential. Survival rations and sleeping bags are stored each night away from the cooking place since fire is one of the worst hazards in remote areas.

Each nation's modern polar clothing is much the same as any other's, designed to be warm, durable and wind resistant. Their vehicles and fuel also are similar, as is the individual camping equipment, which on many long treks includes a comfortable cooking trailer. It is in the bill of fare that the widest national differences occur. What is familiar or tasty and refreshing to one team might constitute a mystery or culinary hardship to another. The partial list of field supplies continues:

United States

corn flakes
powdered fruit juice
instant rice
steaks
instant mashed potatoes
sugar
pancake mix

mustard
catsup
canned chicken
six-pack of beer
double-wrapped frozen bread
shrimp cocktail
chocolate sandwich cookies
Milky Ways

Japanese

corn flakes
powdered fruit juice
instant rice
soy bean paste
Chinese noodle
honey
scraped tangle (dried shredded seaweed)
"Wasabi" preserved in sake - lees (a sort of greenish horseradish)
"Shoyu" soy sauce
instant curry cube
concentrated whisky
cod roes
boiled fish paste
rusk biscuit
wheat gluten

At the end of the Japanese list, as well as last in the line of tracked carriers winding across the sterile plateau is:

caboose with drilling rig
and steam bath!
Chacun à son goût.

Mary P. Goodwin, who gave the Museum its first TERRA Press imprint with the book, *A Mountain Reprieve*, Trekking in Nepal, returns to writing about her first passion, the Antarctic. She admits she'd be willing to go back to the Antarctic, happily, with the Japanese equipment.

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